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Search details


Resources searched

NHS Evidence; TRIP Database; Cochrane Library; BNI; CINAHL; EMBASE; MEDLINE; Google Scholar

**Database search terms**: e.coli; “e. coli”; e.coli; “escherichia coli”; ESCHERICHIA COLI INFECTIONS; catheter*; exp CATHETERS; exp ESCHERICHIA COLI; O157; O157:H7; “O124,O164”; “O55,O111”; “O6,O78”

**Google search string**: catheter* (e. coli OR e.coli OR “escherichia coli” OR "O124,O164" OR O157 OR "O157.H7" OR O55,O111" OR O6,O78")

Summary

There is quite a lot of research published on e.coli bacteraemias and catheter associated infections. There is however no research on why we need to catheterise in the first place during the time period specified. For best practice in catheter care and for implied reasons for using catheters, may I draw your attention to the guidance and especially the RCN guidance on catheter care.

Guidelines

**European Association of Urology**

Guidelines on Urological Infections 2010

1. 3.7.2.1 Collection of the urine
    3.7.2.1.2 Bladder catheterization
    Bladder catheterization is also a most sensitive method, even though there is the risk of introduction of nosocomial pathogens (8,19).

2. 5.4.5 Complicated UTIs associated with indwelling catheters
    Current data do not support the treatment of asymptomatic bacteriuria, either during short-term catheterization (< 30 days) or during long-term catheterization, because it will promote the emergence of resistant strains (22,23). In short-term catheterization, antibiotics may delay the onset of bacteriuria, but do not reduce complications (24).
3. See also section 6 on Catheter-associated UTIs

**National Audit Office**
Reducing healthcare associated infections in England 2010

**NICE**
The management of lower urinary tract symptoms in men 2010
See section 4.2 on Catheterisation.
Urinary incontinence: the management of urinary incontinence in women 2006
Covers catheter care and reasons for catheterisation.

**Royal College of Nursing**
Catheter care: RCN guidance for nurses 2008

**SIGN**
Management of urinary incontinence in primary care 2005

1. **Urodynamics**
   - This test can help to find out the cause of bladder problems. It involves putting one catheter into the bladder through the urethra, (the tube that carries urine out of the bladder) and another into the back passage. This can be a little uncomfortable but can be a very useful test to find out what is going wrong with your bladder

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**Evidence-based reviews**

**Nursing Times**
Best practice in urinary catheterisation and catheter care 2005

**Prodigy**
Urinary tract infection (lower) - men 2010
Urinary tract infection (lower) - women 2009
The former covers catheter use and care but not e. coli infections whereas the latter does.

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**Published research**

1. **Laboratory identification, risk factors, and clinical outcomes of patients with bacteremia due to Escherichia coli and Klebsiella pneumoniae Producing Extended-Spectrum and AmpC type beta-Lactamases**

   **Author(s)** Tsui K., Wong S.-S., Lin L.-C., Tsai C.-R., Chen L.-C., Huang C.-H.
   **Citation:** Journal of Microbiology, Immunology and Infection, June 2012, vol./is. 45/3(193-199), 1684-1182;1995-9133 (June 2012)
   **Publication Date:** June 2012
   **Abstract:** Background: Extended-spectrum beta-lactamase (ESBL)-producing bacteria coexpressing AmpC type beta-lactamase (ACBL) are associated with the laboratory issue of false susceptibility to third-generation cephalosporins. This study was to evaluate laboratory tests and clinical significance of bacteremic isolates of Escherichia coli and Klebsiella pneumoniae with both ESBL and ACBL [dual-type lactamases (DTL)]. Methods: From 2006 to 2009, 78 E coli and 12 pneumoniae bacteremic isolates with reduced susceptibility to cefotaxime (CTX) or ceftriaxone (CAZ) were identified and relevant
patients' data were collected for analysis. Phenotypic and genotypic characterizations of these selected isolates were determined by inhibitor-based assays and polymerase chain reaction-based genetic analyses, respectively. Results: Among the 90 isolates, 47 had DTL production. There was an increasing annual prevalence from 29% in 2006 to 56% in 2009 (p=0.02). Phenotypic assays had a sensitivity and specificity of 57% (43/76) and 93% (13/14) for ESBL detection and 95% (58/61) and 34% (10/29) for ACBL, respectively. Among the DTL-producing isolates, phenotypic assays yielded a higher false negative rate of ESBL detection than that of ACBL detection (70% versus 6%), while all false negative ESBL results were associated with ESBL genes other than bla<sub>CTx-M</sub>. The majority of the DTL-producing isolates were in the category of resistance to CTX (47/47, 100%) and CAZ (44/47, 94%) by the Clinical and Laboratory Standards Institute (CLSI) 2010 interpretive criteria, of which many were considered intermediate or fully susceptible to CTX (25/47, 53%) and CAZ (15/47, 32%) by the previous ones (CLSI-2009). The DTL-producing isolates exhibited a lower susceptibility rate to fluoroquinolones, aztreonam, and beta-lactam/lactamase inhibitors than those with either ESBL or ACBL alone. The use of indwelling catheters or nasogastric tubes was associated with bacteremia due to the DTL isolates, but the mortality rates were not different among those due to isolates with ESBL, ACBL, or both. By multivariate analysis, Pittsburg bacteremia score and Charlson comorbidity index were the significant predictors for all-cause mortalities. Conclusion: Bacteremic episodes due to DTL-producing E. coli and K pneumoniae became increasingly prevalent and were often associated with coresistance to antibiotics other than beta-lactams, but they were not associated with a worse prognosis than those due to ESBL- or ACBL-producing bacteria. 2012.

Source: EMBASE

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2. Clinical and microbiologic characteristics of cephalosporin-resistant escherichia coli at three centers in the United States


Citation: Antimicrobial Agents and Chemotherapy, April 2012, vol./is. 56/4(1870-1876), 0066-4804;1098-6596 (April 2012)

Publication Date: April 2012

Abstract: We investigated the clinical and microbiologic features of 300 cases of cephalosporin-resistant Escherichia coli producing extended-spectrum beta-lactamase (ESBL) or plasmid-mediated AmpC beta-lactamase (pAmpC) at three medical centers in the United States. Solid-organ malignancy, connective tissue disease, and a recent history of surgery were more common among pAmpC-producing cases (n = 49), whereas urinary catheter at enrollment, diabetes, and hospitalization in the past year were more common among ESBL-producing cases (n = 233). The factors independently associated with clinical outcome were the following: the presence of cardiovascular disease (odds ratio [OR], 2.88; 95% confidence interval [CI], 1.29 to 6.43), intra-abdominal infection (OR, 6.35; 95% CI, 2.16 to 0.95), favorable baseline health status (OR, 0.39; 95% CI, 0.16 to 0.95), and appropriate empirical antimicrobial therapy given in the first 72 h (OR, 0.43; 95% CI, 0.20 to 0.88). beta-Lactamase genes responsible for cephalosporin resistance were identified in 291 cases. CTX-M-type ESBLs accounted for 72.0%. Of those, 88.0% were CTX-M-15. The next most common type was CMY-type pAmpC (16.7%), followed by SHV- and TEM-type ESBLs (6.3 and 1.3%, respectively). Seven cases (2.3%) had KPC-type beta-lactamase. Ertapenem, imipenem, meropenem, doripenem, piperacillin-tazobactam, amikacin, nitrofurantoin, and tigecycline were highly active, with greater than 90% of the isolates being susceptible. Cefepime was less active, with only 74.2% being susceptible due to the predominance of CTX-M-15. These findings have implications in the selection of appropriate empirical therapy when infection due to cephalosporin-resistant E. coli is suspected. Copyright 2012, American Society for Microbiology. All Rights Reserved.

Source: EMBASE
3. Risk factor analysis of mortality following bloodstream infections of cancer patients in intensive care unit

Author(s) Zhang Q., Zhang W., Zheng S., Li D., Zhang P.

Citation: Chinese Journal of Clinical Oncology, March 2012, vol./is. 39/6(322-324), 1000-8179 (30 Mar 2012)

Publication Date: March 2012

Abstract: Objective: The present study aims to analyze the bloodstream infection profiles and assess the risk factors associated with mortality of cancer patients in the intensive care unit (ICU) with bloodstream infections. Methods: Medical records of cancer patients with bloodstream infections, admitted to the Tianjin Medical University Cancer Institute and Hospital during January 2010 and June 2011, were retrospectively analyzed. Results: Microbiological data of 88 cases with bloodstream infections were recorded in our study (56 males, 32 females; 65.8 +/- 24.2 years old). Of the total patients, 45 survived and 43 died. The most commonly seen etiological agents of bloodstream infections were coagulase-negative staphylococci in 42 cases (37.8%), Escherichia coli in 15 cases (13.5%), and Candida albicans in 9 cases (8.1%). Univariate analysis showed that risk factors included mechanical ventilation for more than 7 days and duration of central venous catheterization and higher APACHE II scores, of which, mechanical ventilation of more than 7 days was the independent mortality risk factor (odds ratio: 6.8, 95% CI: 2.5-18.4; P < 0.001). Conclusion: Bloodstream infections caused by coagulase-negative staphylococci are the major source of mortality in severe tumor cases. Prevention and treatment of bloodstream infections should mainly focus on preventing infections caused by coagulase-negative staphylococci in cancer patients in the ICU.

Source: EMBASE

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4. Locking tunneled hemodialysis catheters with hypertonic saline (26% NaCl) and heparin to prevent catheter-related bloodstream infections and thrombosis: A randomized, prospective trial

Author(s) Oguzhan N., Pala C., Sipahioglu M.H., Cilan H., Durmaz S., Percin D., Unal A., Tokgoz B., Utas C., Oymak O.

Citation: Renal Failure, March 2012, vol./is. 34/2(181-188), 0886-022X;1525-6049 (March 2012)

Publication Date: March 2012

Abstract: Objective: Tunneled cuffed dual-lumen catheters (TCCs) are commonly used for vascular access in hemodialysis (HD) patients. Catheter-related bloodstream infection (CRBSI) is the major problem leading to morbidity and mortality. We investigated whether 26% NaCl solution has any favorable effect on the infections and thrombosis caused by HD catheters. Methods: TCCs were locked with either 26% NaCl and heparin or standard heparin. The primer end point of the study was the CRBSI or thrombosis of the TCC. We compared the antimicrobial activity of the NaCl solutions (6.5%, 13%, 26%) with 0.9% NaCl solution by timekill kinetic assay. All tests were performed in triplicate by incubation of test fluids with Escherichia coli, Pseudomonas aeruginosa, Staphylococcus aureus, and Staphylococcus epidermidis. Results: The mean catheter survival was significantly higher in the 26% NaCl and heparin group (129.5 +/- 50.1 catheter days to 103.3 +/- 59.8, p = 0.008). CRBSI rates (1015.4%) did not differ significantly between the two groups (p = 0.54). The hypertonic 13% NaCl solution had bactericidal effects on E. coli and P. aeruginosa, but had bacteriostatic effect on S. aureus and S. epidermidis. Conclusion: In this study we demonstrated that the 13% NaCl solution and more hypertonic NaCl solutions revealed potent in vitro antimicrobial properties against all checked Gram-negative microorganisms. 2012 Informa Healthcare USA, Inc.

**Author(s)** Alkindi S, Matwani S, Al-Maawali A, Al-Maskari B, Pathare A

**Citation:** Journal of Infection and Public Health, March 2012, vol./is. 5/1(57-62), 1876-035X (2012 Mar)

**Publication Date:** March 2012

**Abstract:** BACKGROUND: Red cell exchange/transfusion is frequently used in the management of patients with medical complications related to acute severe sickle cell disease (SCD). However, peripheral venous access is often difficult without central venous catheters (CVCs) in adult patients with moderate or severe SCD. AIMS: To review our experience with the use of the PORT-A-CATH([REGISTERED]) device in sixteen patients with SCD undergoing exchange or simple transfusions. METHODS: Among a cohort of 550 patients who frequently visited the inpatient service, sixteen SCD patients required the insertion of a PORT-A-CATH([REGISTERED]) device. These patients included 3 males and 13 females, aged 25-44 years [31.1 +/- 2.3; mean +/- SD]. A total of 24 PORT-A-CATH([REGISTERED]) devices were implanted in these 16 patients during the study period. Eleven patients had 1 device implanted, three patients had 2 devices, one patient had 3 devices, and one patient had 4 devices implanted. RESULTS: Out of the 24 devices implanted, 17 required removal, due to either infection associated with sepsis and/or thrombosis. The organisms involved were Candida spp. (3), C. Parapsilosis (2), C. albicans (1), C. famata (1), C. lusitaniae (1), Staphylococcus spp. (6), and S. aureus (3), as well as the coagulase-negative Staphylococcus (2), alpha hemolytic Streptococcus (1), Diphtheroid bacilli (2), Pseudomonas aeruginosa (2), Ps. Spp. (3), Escherichia coli (3), Klebsiella oxytoca (1), Klebsiella pneumoniae (1), Klebsiella spp. (1), Serratia liquefaciens (1), Serratia fanticola (1), Achromobacter spp. (2) Chromobacterium violaceum (1), Delftia acidovorans (1), Stenotrophomonas maltophile (1), Alcaligenes faecalis (1), and Enterobacter cloacae (1). Two episodes of documented thrombosis were observed. One case presented with right atrial thrombosis/SVC syndrome and the other case presented with left upper arm thrombosis. Two patients died with ports in situ, while five patients had ports in place at the time of this study. The median working life of the ports was 688.5 days (range: 39-3925). The rate of infective complications was 2.63 infections per 1000 catheter days, and the number of infections was significantly correlated with the number of ports [Pearson's r=0.66; p<0.01]. DISCUSSION: Our results suggest that patients with SCD suffer infective complications associated with the PORT-A-CATH([REGISTERED]), which often necessitate its removal. Although these devices are extremely useful, their optimal beneficial potential is only realized if the patients receive proper care at special centers well-versed in the maintenance of such devices by experienced staff. Copyright A Copyright 2011 King Saud Bin Abdulaziz University for Health Sciences. Published by Elsevier Ltd. All rights reserved.

**Source:** Medline


**Author(s)** Chung HC, Lai CH, Lin JN, Huang CK, Liang SH, Chen WF, Shih YC, Lin HH, Wang JL

**Citation:** Antimicrobial Agents & Chemotherapy, February 2012, vol./is. 56/2(618-22), 0066-4804;1098-6596 (2012 Feb)

**Publication Date:** February 2012

**Abstract:** Escherichia coli producing the highly virulent, multidrug-resistant, CTX-M-15 extended-spectrum beta-lactamase (ESBL), sequence type 131 (ST131), has emerged on three continents since the late 2000s. We described the molecular epidemiology, clinical features, and outcome of ESBL-producing E. coli bacteremia in Taiwan from 2005 to 2010.
This study aims to determine whether the risk factors, clinical features, and outcomes of the ST131 isolate differ from those of non-ST131 isolates. From 2005 to 2010, we collected 122 nonduplicated, consecutive, ESBL-producing E. coli isolates from bloodstream infections in a 1,200-bed hospital in Taiwan. Isolates were characterized using multilocus sequence typing. Demographic data, clinical features, and outcomes were collected from medical chart records. Thirty-six (29.5%) patients with bacteremia with ESBL-producing E. coli ST131 were identified. Patients with clone ST131 were more likely to have secondary bacteremia and noncatheterized urinary tract infections (P < 0.05). Secondary bacteremia (odds ratio [OR], 5.05; 95% confidence interval [CI], 1.08 to 23.56) and urinary catheter nonuse (OR, 3.77; 95% CI, 1.17 to 12.18) were independent risk factors for the ST131 clone after adjustment. Mortality rates at day 28 were similar in ST131 and non-ST131 populations. Independent risk factors predicting mortality at day 28 included malignancy, shock, and hospital-acquired bacteremia. In ESBL-producing E. coli bloodstream infections, the ST131 clone was not associated with health-care-associated risk factors, such as urinary catheter use or antibiotic exposure. Although highly virulent and multidrug resistant, the ST131 clone was not associated with higher mortality than non-ST131 clones.

Source: Medline
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7. Comparison of asymptomatic bacteriuria escherichia coli isolates from healthy individuals versus those from hospital patients shows that long-term bladder colonization selects for attenuated virulence phenotypes

Author(s) Salvador E., Wagenlehner F., Kohler C.-D., Mellmann A., Hacker J., Svanborg C., Dobrindt U.

Citation: Infection and Immunity, February 2012, vol./is. 80/2(668-678), 0019-9567;1098-5522 (February 2012)
Publication Date: February 2012

Abstract: Asymptomatic bacteriuria (ABU) is a condition where bacteria stably colonize the urinary tract, in a manner closely resembling commensalism at other mucosal sites. The patients carry <10<sup>5</sup> CFU/ml for extended periods of time and rarely develop symptoms. Contrasting the properties of ABU strains to those of uropathogenic isolates causing symptomatic infection is therefore highly relevant to understand mechanisms of bacterial adaptation. The prototype ABU strain Escherichia coli 83972 has a smaller genome than uropathogenic E. coli (UPEC) strains with deletions or point mutations in several virulence genes, suggesting that ABU strains undergo a programmed reductive evolution within human hosts. This study addressed if these observations can be generalized. Strains causing ABU in outpatients or hospitalized patients after catheterization or other invasive procedures were compared to commensal E. coli isolates from the intestinal flora of healthy individuals. Notably, clonal complex 73 (CC73) was a prominent phylogenetic lineage dominated by ABU isolates. ABU isolates from outpatients and hospitalized patients had a similar overall virulence gene repertoire, which distinguished them from many commensals, but typical UPEC virulence genes were less frequently attenuated in hospital strains than in outpatient strains or commensals. The decreased virulence potential of outpatient ABU isolates relative to that of ABU strains from hospitalized patients supports the hypothesis that loss of expression or decay of virulence genes facilitates long-term carriage and adaptation to host environments. 2012, American Society for Microbiology.

Source: EMBASE
Available in print at ULHT journal article requests. Complete the online form to obtain articles.

8. High rates of quinolone resistance among urinary tract infections in the ED

Author(s) Khawcharoenporn T., Vasoo S., Ward E., Singh K.

Citation: American Journal of Emergency Medicine, January 2012, vol./is. 30/1(68-74),
**Abstract:** Objectives: The objectives of this study are to examine antibiotic resistance rates and to determine appropriate empiric oral antibiotic for patients with urinary tract infections (UTIs) evaluated and discharged from the ED. Methods: A retrospective, single-institution chart review study from August 2008 to March 2009 was conducted. Adult patients seen in the ED with UTI were identified for study inclusion from review of microbiology records. Hospitalized or asymptomatic bacteriuria cases were excluded. Health care-associated (HA)-UTI was defined as UTI with indwelling urinary catheters, health care exposure, or urologic procedures within 3 months. Prevalence of causative bacteria, antibiotic resistance rates, and risk factors for quinolone resistance were determined. Results: There were 337 eligible patients with 83% women. The most common uropathogens among 357 bacterial isolates were Escherichia coli (71%) and Klebsiella spp. (9%). Overall levofloxacin resistance rate was 17%. Resistance rates for HA-UTIs were significantly greater than those for community-associated-UTI: levofloxacin, 38% vs 10%; trimethoprim-sulfamethoxazole, 26% vs 17%; amoxicillin, 53% vs 45%; and amoxicillin-clavulanate, 16% vs 6%. Nitrofurantoin resistance rates were similar (9%). Independent risk factors for levofloxacin resistance were long-term medical conditions (adjusted odds ratio [aOR], 4.23; P = .001), HA-UTI (aOR, 2.56; P = .006), and prior quinolone use within 1 week (aOR, 14.90; P = .02) and within 1 to 4 weeks (aOR, 4.62; P = .04). Conclusions: We report high rates of quinolone resistance in ED patients with UTIs at our institution. For patients with risk factors for quinolone resistance, empiric therapy with cephalosporins or nitrofurantoin may be preferred. Urine culture and susceptibility testing should be performed to guide definitive therapy for HA-UTIs. 2012 Elsevier Inc. All rights reserved.

**Source:** EMBASE

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9. Clinical predictors of Enterobacter bacteremia among patients admitted to the ED


**Citation:** American Journal of Emergency Medicine, January 2012, vol./is. 30/1(165-169), 0735-6757;1532-8171 (January 2012)

**Publication Date:** January 2012

**Abstract:** Objectives: This study was performed to evaluate clinical features of community-onset Enterobacter bacteremia and determine the risk factors for Enterobacter bacteremia among patients admitted to the emergency department. Methods: A post hoc analysis of a nationwide surveillance database of bacteremia was performed. A total of 53 patients with community-onset Enterobacter bacteremia were compared with 882 patients with Escherichia coli bacteremia. Results: As for the underlying disease, solid tumor was more likely common in Enterobacter bacteremia than in E coli bacteremia (39.6% [21/53] vs 19.7% [174/882], P < .001). Neutropenia, indwelling urinary catheter, and tube insertion were significantly more common in Enterobacter bacteremia than in E coli bacteremia, whereas urinary tract was less likely frequent in Enterobacter bacteremia than in E coli bacteremia (all Ps < .05). As for the site of infection, lung and abdomen were more likely common in Enterobacter bacteremia than in E coli bacteremia, whereas urinary tract was less likely frequent in Enterobacter bacteremia than in E coli bacteremia (all Ps < .05). In the multivariate analysis, pneumonia, tube insertion, solid tumor, and health care-associated infection were found to be significantly associated with Enterobacter bacteremia (all Ps < .05). Conclusions: Enterobacter species were important pathogens among community-onset gram-negative bacteremia, in association with health care-associated infections. Pneumonia, tube insertion, solid tumor, and health care-associated infections were found to be significantly associated with Enterobacter bacteremia. 2012 Elsevier Inc. All rights reserved.

**Source:** EMBASE

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10. Clinical predictors of Enterobacter bacteremia among patients admitted to the ED.

Author(s) Kang CI, Chung DR, Ko KS, Peck KR, Song JH, Korean Network for Study of Infectious Diseases (KONSID)

Citation: American Journal of Emergency Medicine, January 2012, vol./is. 30/1(165-9), 0735-6757;1532-8171 (2012 Jan)

Publication Date: January 2012

Abstract: OBJECTIVES: This study was performed to evaluate clinical features of community-onset Enterobacter bacteremia and determine the risk factors for Enterobacter bacteremia among patients admitted to the emergency department. METHODS: A post hoc analysis of a nationwide surveillance database of bacteremia was performed. A total of 53 patients with community-onset Enterobacter bacteremia were compared with 882 patients with Escherichia coli bacteremia. RESULTS: As for the underlying disease, solid tumor was more likely common in Enterobacter bacteremia than in E. coli bacteremia (39.6% [21/53] vs 19.7% [174/882], P < .001). Neutropenia, indwelling urinary catheter, and tube insertion were significantly more common in Enterobacter bacteremia than in E. coli bacteremia (all Ps < .05). As for the site of infection, lung and abdomen were more likely common in Enterobacter bacteremia than in E. coli bacteremia, whereas urinary tract was less likely frequent in Enterobacter bacteremia than in E. coli bacteremia (all Ps < .05). In the multivariate analysis, pneumonia, tube insertion, solid tumor, and health care-associated infection were found to be significantly associated with Enterobacter bacteremia (all Ps < .05). CONCLUSIONS: Enterobacter species were important pathogens among community-onset gram-negative bacteremia, in association with health care-associated infections. Pneumonia, tube insertion, solid tumor, and health care-associated infections were found to be significantly associated with Enterobacter bacteremia. Copyright Copyright 2012 Elsevier Inc. All rights reserved.

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11. Clinical characteristics and outcomes of patients with extended-spectrum beta-lactamase-producing bacteremias in the emergency department.

Author(s) Lin JN, Chen YH, Chang LL, Lai CH, Lin HL, Lin HH

Citation: Internal & Emergency Medicine, December 2011, vol./is. 6/6(547-55), 1828-0447;1970-9366 (2011 Dec)

Publication Date: December 2011

Abstract: Extended-spectrum beta-lactamase (ESBL)-producing bacteria have been spreading from hospitals to communities. Despite this, there are limited emergency department (ED) patient-based studies about these bacteremias. A retrospective matched case-control study with a ratio of 1:3 was conducted at a university hospital. The case group consisted of patients aged >16 years with ESBL-producing bacteremias in the ED. Patients matched for age and sex with non-ESBL-producing bacteremias were sampled as the control group. Finally, 64 episodes of ESBL-producing Escherichia coli, Klebsiella pneumoniae, and Proteus mirabilis bacteremias were included in our study. The median age of case patients was 71 years, and 29 (45.3%) were males. The most common type of infection was urinary tract infection (71.9%), followed by intra-abdominal infection (12.5%). Inappropriate empirical antibiotics therapy was prescribed in 87.5% of case patients, which was significantly higher than the control group (13.0%; p < 0.001). Patients with inappropriate empirical antibiotics had a significantly longer hospital stay than those with appropriate empirical antibiotics (p < 0.001). Multivariate analysis showed that hospital-acquired infection, urinary catheterization, and previous antibiotics use were independent risk factors for the acquisition of ESBL-producing bacteremia. The 28-day mortality rate of case patients was 18.8%. Whether they received appropriate empirical antibiotics treatment or not, there was no statistical difference in the mortality of patients with ESBL-producing bacteremias (p = 0.167). To face these emerging multidrug-resistant bacteria and to guide the empirical antibiotics therapy, it is crucial for emergency physicians to recognize the
characteristics and risk factors for ESBL-producing organisms.

Source: Medline
Available in print at ULHT journal article requests. Complete the online form to obtain articles.

12. Escherichia coli bacteremia: how preventable is it?
Author(s) Underwood J, Klein JL, Newsholme W
Citation: Journal of Hospital Infection, 01 December 2011, vol./is. 79/4(364-365), 01956701
Publication Date: 01 December 2011
Abstract: Mandatory bacteremia reporting was extended to include Escherichia coli from June 2011. The purpose of this study was to investigate whether the success seen in reducing meticillin-resistant Staphylococcus aureus infection rates could be duplicated with E. coli. All cases of E. coli bacteremia occurring at our Trust in 2010 were reviewed. There were 216 episodes of E. coli bacteremia, of which 63% were community-acquired. Only 19% had a potentially preventable cause identified, the majority (71%) of whom had urinary catheter-associated bacteremia. These data must be kept in mind should targets to reduce E. coli bacteremia be set in the future.
Source: CINAHL
Available in print at ULHT journal article requests. Complete the online form to obtain articles.

13. Update in adult urinary tract infection
Author(s) Nicolle L.E.
Citation: Current Infectious Disease Reports, December 2011, vol./is. 13/6(552-560), 1523-3847;1534-3146 (December 2011)
Publication Date: December 2011
Abstract: Urinary tract infection remains a common problem for many populations. Recent studies have expanded our understanding of the host innate immune response and its role in the familial association observed for recurrent uncomplicated urinary tract infection in healthy women. Therapeutic management for uncomplicated infection has been compromised by increasing antimicrobial resistance, particularly global dissemination of the CTXM-15 extended spectrum beta-lactamase (ESBL) producing Escherichia coli ST-131 strain. Prevention strategies exploring non-antimicrobial approaches continue to show limited promise, and approaches to limit empiric antimicrobials are now being explored. For complicated urinary tract infection, increasing antimicrobial resistance limits therapeutic options for many patients. In addition to ESBL producing E. coli, NDM-1 E. coli and Klebsiella pneumoniae and other resistant Gram negatives, such as Acinetobacter species, are being isolated more frequently. There has been renewed interest in catheter-acquired urinary tract infection, the most common health-care associated infection, with several recent evidence-based guidelines for infection prevention available. However, technologic progress in development of adherence-resistant catheter materials remains disappointing. 2011 Springer Science+Business Media, LLC.
Source: EMBASE
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14. Not All Nosocomial Escherichia coli Bacteriurias Are Catheter Associated
Author(s) Marschall J., Ota K.N., Henderson J.P., Warren D.K.
Citation: Infection Control and Hospital Epidemiology, November 2011, vol./is. 32/11(1140-1142), 0899-823X (November 2011)
15. Effectiveness of antibiotic-lock therapy for long-term catheter-related bacteremia due to gram-negative bacilli: A prospective observational study

Author(s) Funalleras G., Fernandez-Hidalgo N., Borrego A., Almirante B., Planes A.M., Rodriguez D., Ruiz I., Pahissa A.

Citation: Clinical Infectious Diseases, November 2011, vol./is. 53/9(e129-e132), 1058-4838;1537-6591 (01 Nov 2011)

Abstract: A prospective observational study evaluated the effectiveness of combining antibiotic-lock therapy and systemic antibiotics for Gram-negative bacilli long-term catheter-related bacteremia. In 46 uncomplicated episodes, the most frequently isolated microorganisms were Pseudomonas aeruginosa (15), Enterobacter cloacae (12), Escherichia coli (10), and Klebsiella spp. (8). Cure was achieved in 95% of cases.

Source: EMBASE

16. Mortality and associated risk factors in consecutive patients admitted to a UK NHS trust with community acquired bacteraemia

Author(s) Hounsom L., Grayson K., Melzer M.

Citation: Postgraduate Medical Journal, November 2011, vol./is. 87/1033(757-762), 0032-5473;1469-0756 (November 2011)

Abstract: Purpose Within the UK, there is lack of contemporary data on clinical outcomes in patients admitted to hospital with severe community acquired infection. The purpose of this study was to determine outcomes and risk factors associated with mortality in consecutive patients admitted to a UK NHS trust with community acquired infections that cause bacteraemia. Methods From September 2007 to August 2008, demographic, clinical and microbiological data were collected on patients with laboratory confirmed bacteraemia. Multivariate logistic regression was used to determine the association between predicted variables and likelihood of death. Results 686 bacteraemic episodes occurred in 681 patients. The most common sites of infection were non-catheter associated urinary tract infections (140, 20.4%) and biliary tract infections (62, 9.1%). The most common organisms were Escherichia coli (238, 34.7%), Staphylococcus aureus (84, 12.2%) and Streptococcus pneumoniae (40, 5.8%). Of the E coli infections, extended spectrum b-lactamase (ESBL) producers accounted for 21/238 (8.8%), and of the S aureus infections, methicillin resistant S aureus (MRSA) accounted for 14/84 (16.7%). 124 (18.2%, 95% CI 15.3% to 21.1%) people died within 7 days and 170 (25.0%, 95% CI 21.7% to 28.2%) within 30 days. Age (OR 2.17, 95% CI 1.54 to 3.06), Charlson comorbidity index (OR 1.21, 95% CI 1.10 to 1.34), and Pitt score (OR 1.49, 95% CI 1.32 to 1.67) were highly significantly associated with 30 day mortality (p<0.001). Delay in appropriate antibiotic treatment (OR 1.35, 95% CI 1.05 to 1.75) and an undefined site of infection (OR 2.05, 95% CI 1.19 to 3.53) were less significantly associated with 30 day mortality (p<0.05). Conclusion The 30 day mortality rate in consecutive patients with community acquired bacteraemic infection was 25.0%. These figures could be used as performance indicators to compare outcomes in different UK NHS trusts. With the exception of delay in appropriate antibiotic treatment, predictors of mortality at 30 days were non-modifiable.

Source: EMBASE
17. Predictors of catheter-related gram-negative bacilli bacteraemia among cancer patients

**Author(s)** Cairo J., Hachem R., Rangaraj G., Granwehr B., Raad I.

**Citation:** Clinical Microbiology and Infection, November 2011, vol./is. 17/11(1711-1716), 1198-743X;1469-0691 (November 2011)

**Publication Date:** November 2011

**Abstract:** Gram-negative bacillary bacteraemia (GNB) is associated with high morbidity and mortality among cancer patients. We conducted this study to determine the risk factors that may predict the catheter as the source of GNB in cancer patients. From July 2005 to December 2006 all 266 cancer patients with GNB and central venous catheters (CVCs) at The University of Texas M. D. Anderson Cancer Centre in Houston, were classified as catheter-related bloodstream infection (CRBSI) according to Infectious Diseases Society of America criteria. We compared clinical and microbiological features of CRBSIs and non-CRBSIs. We identified 78 CRBSIs and 126 non-CRBSIs. On univariate analysis, polymicrobial bacteraemia, Stenotrophomonas maltophilia bacteraemia, and more than 1000CFUs in CVC blood cultures, were more common among CRBSI cases. Escherichia coli bacteraemia, haematologic cancer, neutropenia and prior antibiotic use were more common among non-CRBSI cases. On multivariate analysis, S. maltophilia bacteraemia (odds ratio (OR), 5.78; 95% confidence interval (CI), 1.47-22.78; p=0.045), polymicrobial bacteraemia (OR, 4.04; 95% CI, 1.56-10.44; p=0.042), and more than 1000CFUs from CVC blood cultures (OR, 4.39; 95% CI, 2.02-9.27; p<0.01), were associated with CRBSI. Neutropenia was associated with non-CRBSI (OR, 0.26; 95% CI, 0.13-0.53; p<0.01). Several factors such as S. maltophilia bacteraemia, polymicrobial bacteraemia and more than 1000CFUs from a blood culture drawn through the CVC may assist the clinicians in assessing whether an indwelling catheter is the source of a GNB and hence CVC removal may be considered. 2011 The Authors. Clinical Microbiology and Infection 2011 European Society of Clinical Microbiology and Infectious Diseases.

**Source:** EMBASE

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**Author(s)** Crosby-Nwaobi, R.R., Faithfull, S.

**Citation:** European Journal of Cancer Care, 01 November 2011, vol./is. 20/6(825-831), 09615423

**Publication Date:** 01 November 2011

**Abstract:** Crosby-Nwaobi R. & Faithfull S. (2011) European Journal of Cancer Care 20, 825-831 High risk of urinary tract infections in post-operative gynaecology patients: a retrospective case analysis This study was undertaken to determine the incidence and risk factors related to the occurrence of urinary tract infections (UTIs), post surgery, in women being treated for a gynaecological cancer. A retrospective case analysis of 215 women was conducted using data collected via case review with domains covering known risk factors for the occurrence of urinary infections. Bacteriuria was defined as greater than 10<sup>5</sup> colony-forming units per millilitre. A total of 30.7% of women had a UTI post-operatively. Among these, 75.7% infections were Escherichia coli. Having a catheter in situ for ≤3 days was found to be slightly significant in the formation of a UTI post-operatively ( U= 3878, P < 0.05). Having a catheter in situ for ≥7 days was found to be highly significant (χ<sup>2</sup>(1) = 6.602, P < 0.01), with an odds ratio of 2.44. A positive correlation was found between the duration of the catheter in situ and type of UTI ( r= .251, P < 0.01). Although urinary catheterisation is known to be related to hospital-
acquired infection, a shorter duration of catheterisation may reduce the risk of possible infection post surgery. Oncology teams need to be more aware of this risk, identify women more likely to be catheterised for longer and use preventative strategies for managing infection, such as silver nitrite-lined catheters.

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19. Not all nosocomial Escherichia coli bacteriurias are catheter associated.
Author(s) Marschall, Jonas, Ota, Kyle N, Henderson, Jeffrey P, Warren, David K
Citation: Infection Control & Hospital Epidemiology, 01 November 2011, vol./is. 32/11(1140-1142), 0899823X
Publication Date: 01 November 2011
Source: CINAHL
Available in print at ULHT journal article requests. Complete the online form to obtain articles.

20. High risk of urinary tract infections in post-operative gynaecology patients: A retrospective case analysis
Author(s) Crosby-Nwaobi R.R., Faithfull S.
Citation: European Journal of Cancer Care, November 2011, vol./is. 20/6(825-831), 0961-5423;1365-2354 (November 2011)
Publication Date: November 2011
Abstract: This study was undertaken to determine the incidence and risk factors related to the occurrence of urinary tract infections (UTIs), post surgery, in women being treated for a gynaecological cancer. A retrospective case analysis of 215 women was conducted using data collected via case review with domains covering known risk factors for the occurrence of urinary infections. Bacteriuria was defined as greater than 10<sup>5</sup> colony-forming units per millilitre. A total of 30.7% of women had a UTI post-operatively. Among these, 75.7% infections were Escherichia coli. Having a catheter in situ for <=3 days was found to be slightly significant in the formation of a UTI post-operatively (U= 3878, P < 0.05). Having a catheter in situ for >=7 days was found to be highly significant (chi<sup>2</sup>(1) = 6.602, P < 0.01), with an odds ratio of 2.44. A positive correlation was found between the duration of the catheter in situ and type of UTI ( = .251, P < 0.01).
Although urinary catheterisation is known to be related to hospital-acquired infection, a shorter duration of catheterisation may reduce the risk of possible infection post surgery. Oncology teams need to be more aware of this risk, identify women more likely to be catheterised for longer and use preventative strategies for managing infection, such as silver nitrite-lined catheters. 2011 Blackwell Publishing Ltd.
Source: EMBASE
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21. Central venous catheter-related bloodstream infections in the intensive care unit
Author(s) Patil H., Patil V., Ramteerthkar M., Kulkarni R.
Citation: Indian Journal of Critical Care Medicine, October 2011, vol./is. 15/4(213-223), 0972-5229;1998-359X (October-December 2011)
Publication Date: October 2011
Abstract: Context: Central venous catheter-related bloodstream infection (CRBSI) is associated with high rates of morbidity and mortality in critically ill patients. Aims: This study was conducted to determine the incidence of central venous catheter-related infections
(CRIs) and to identify the factors influencing it. So far, there are very few studies that have been conducted on CRBSI in the intensive care unit in India. Settings and Design: This was a prospective, observational study carried out in the medical intensive care unit (MICU) over a period of 1 year from January to December 2004. Materials and Methods: A total of 54 patients with indwelling central venous catheters of age group between 20 and 75 years were included. The catheters were cultured using the standard semiquantitative culture (SQC) method. Statistical analysis used SPSS-10 version statistical software. Results: A total of 54 CVC catheters with 319 catheter days were included in this study. Of 54 patients with CVCs studied for bacteriology, 39 (72.22%) catheters showed negative SQCs and also negative blood cultures. A total of 15 (27.77%) catheters were positive on SQC, of which 10 (18.52%) were with catheter-associated infection and four (7.41%) were with catheter-associated bacteremia; the remaining one was a probable catheter-associated bacteremia. CRIs were high among catheters that were kept in situ for more than 3 days and emergency procedures where two or more attempts were required for catheterization (P < 0.05). In multivariate analysis of covariance duration of catheter in situ for >3 days, inexperienced venipuncturist, more number of attempts and emergency CVC were associated with more incidence of CVCBSIs, with P <0.02. The duration of catheter in situ was negatively correlated (-0.53) and number of attempts required to put CVC was positively correlated (+0.39) with incidence of CVCBSIs. Fifty-six percent of the isolates belonged to the CONS group (13/20). Staphylococcus epidermidis showed maximum susceptibility to amikacin, doxycycline and amoxycillin with clavulanic acid and was susceptible to vancomycin (100%). Klebsiella pneumoniae was 100% susceptible to amikacin and ciprofloxacin. Escherichia coli was susceptible to amikacin and cefotaxime. Conclusions: The overall incidence of CRI was 27.77% (15/54). Catheter-associated BSIs were 47.31 per 1000 catheter-days. CRI was low in the catheters inserted by the experienced venipuncturists, elective procedure and CVC kept in situ for 3 days. S. epidermidis was the most common isolate.

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22. Risk factors and mortality for nosocomial bloodstream infections in elderly patients

Author(s) Reuntes S., Rombaut V., Vogelaers D., Brusselaers N., Lizy C., Cankurtaran M., Labeau S., Petrovic M., Blot S.
Citation: European Journal of Internal Medicine, October 2011, vol./is. 22/5(e39-e44), 0953-6205;1879-0828 (October 2011)
Publication Date: October 2011
Abstract: Objective: To determine risk factors for nosocomial bloodstream infection (BSI) and associated mortality in geriatric patients in geriatric and internal medicine wards at a university hospital. Methods: Single-center retrospective (1992-2007), pairwise-matched (1:1-ratio) cohort study. Geriatric patients with nosocomial BSI were matched with controls without BSI on year of admission and length of hospitalization before onset of BSI. Demographic, microbiological, and clinical data are collected. Results: One-hundred forty-two BSI occurred in 129 patients. Predominant microorganisms were Escherichia coli (23.2%), coagulase-negative Staphylococci (19.4%), Pseudomonas aeruginosa (8.4%), Staphylococcus aureus (7.1%), Klebsiella pneumoniae (5.8%) and Candida spp. (5.8%). Matching was successful for 109 cases. Compared to matched control subjects, cases were more frequently female, suffered more frequently from arthritis, angina pectoris and pressure ulcers, had worse Activities of Daily Living-scores, had more often an intravenous or bladder catheter, and were more often bedridden. Logistic regression demonstrated presence of an intravenous catheter (odds ratio [OR] 7.5, 95% confidence interval [CI] 2.5-22.9) and being bedridden (OR 2.9, 95% CI 1.6-5.3) as independent risk factors for BSI. In univariate analysis nosocomial BSI was associated with increased mortality (22.0% vs. 11.0%; P = 0.029). After adjustment for confounding co-variates, however, nosocomial BSI was not associated with mortality (hazard ratio 1.3, 95% CI 0.6-2.6). Being bedridden and increasing age were independent risk factors for death. Conclusion: Intravenous catheters and being bedridden are the main risk factors for nosocomial BSI. Although associated with
higher mortality, this infectious complication seems not to be an independent risk factor for death in geriatric patients. 2011 European Federation of Internal Medicine. Published by Elsevier B.V. All rights reserved.

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23. E. coli urinary tract infections in patients admitted during 2010 in internal medicine service

Author(s) Tavares I., Cortes M., Moraes F., Goncalves A., Santos I., Lopes L., Massalana A.

Citation: European Journal of Internal Medicine, October 2011, vol./is. 22/(S90-S91), 0953-6205 (October 2011)

Publication Date: October 2011

Abstract: Background: The urinary tract infections (UTI) are a common ambulatory and nosocomial infection namely in patients with vesical catheterization (VC). The E. coli is the most frequent pathogen and the resistance to the antibiotics is a problem. The aim of this paper is to analyze the patients admitted during 2010 with E. coli UTI diagnosis, at the Medicine Ward. Methods: We studied age, gender, risk factors (RF), clinical presentation, diagnosis criteria, place of the infection acquisition, antimicrobial therapy and resistance. Results: UTI was presented in 146 patients. 43 had positive cultures for E. coli. The mean age was 78,8 and 34,5% were male; 65,5% exhibited more than one RF. Acute Cystitis (37,2%), urosepsis (23,3%) and UTI of the permanently catheterized patient (20,9%) were the most frequent diagnosis. 23,3% of the infection was nosocomial. The more used diagnosis method was the urinary sediment associated with the blood and urine cultures (53,5%). 39,5% had Extended Spectrum beta-Lactamases (ESBL) E. coli, from which 76,5% had two or more RF. Ciprofloxacine followed by Ceftriaxone and Imipenem was the more used treatment. On 55,8% treatment was altered after antibiogram. Was found a statistically significant difference (p<0,001) between the sensitivity of the different bacteria to some antibiotics (penicillins and cephalosporin group). Conclusions: The patients with UTI diagnosis are elderly and they present many RF. E. coli wasn't the most frequent organism causing UTI but we found ESBL in 39,5% of patients. Quinolones should be avoided as the first line treatment because of high percentage of resistance.

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24. A clinical and microbiological study of urinary tract infection in patients following instrumentation

Author(s) Ravichandraprakash H., Ravikumar R., Krishna S., Mariraj J., Vijayanath V., Gadigi S., Patil V.M.

Citation: Journal of Pure and Applied Microbiology, October 2011, vol./is. 5/2(669-682), 0973-7510 (October 2011)

Publication Date: October 2011

Abstract: The present study was carried out on both outpatients and inpatients attending the Department of Urology, Vijayanagar Institute of Medical Sciences, Bellary. The study consisted of 110 cases based on clinical diagnosis and type of instrumentation performed on patients. Urine samples were collected from all the patients by mid stream sample or aseptically aspirated catheter sample and were processed in the Department of Microbiology, VIMS, Bellary for both bacteria and fungi. In the present study urinary tract infection (UTI) following instrumentation was more common among men than women. In men the highest incidence was seen in 61 to 70 years group about 14% and in women 21 to 30 years group about 17.9%. In the present study cystoscopy accounted most common instrumentation procedure carried out in 36.3% of cases followed by catheterization in 30.9% of cases. Other instrumentation procedures commonly carried were urethral
dilatation (22.7%), transurethral resection of prostate (5.4%) and endostricturotomy (4.5%). The highest incidence of infection rate following instrumentation was seen in transurethral resection of prostate about 66.7%. Endostricturotomy and catheterization also carries an equal risk of infection accounting for 60% and 58.8% respectively. Microbiological study of urine samples obtained from 110 patients showed the positive growth in 46.3% cases and no growth was obtained in 53.7% of cases. Among the bacterial isolates gram negative enteric bacteria were the predominant organisms. Escherichia coli and Klebsiella pneumonia constituted predominant isolates obtained. Pseudomonas aeruginosa was the third most common organism isolated in 12% of cases. Gram positive cocci were isolated in 16% of cases. Coagulase negative staphylococci was the predominant isolate obtained in 12% followed by Staphylococcus aureus in 4% of cases. In case of urinary tract infection without any instrumentation Escherichia coli and Klebsiella pneumoniae were the predominant organisms. So in the preset study no significant difference was found between the bacteriology of UTI with or without instrumentation. Antibiotic susceptibility patterns shows amikacin, gentamicin, ciprofloxacin and norfloxacin are antibiotic choice for treating the urinary tract infection following instrumentation. No fungus was isolated in 110 cases of UTI following instrumentation. 30 cases of UTI without any instrumentation was also included in the study as control group. In the control group there was a female preponderance. The most commonly affected age groups in females was 11 to 20 years about 20%. The most commonly affected age groups among males was 31 to 40 years about 10% . In case of UTI without any instrumentation E. coli and Klebsiella pneumonia were the predominant organisms. Therefore, it was concluded that no significant difference was found between the bacteriology of UTI with or without instrumentation. No fungus was isolated in 30 cases of UTI without any instrumentation.

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25. Urine cultures from indwelling bladder catheters in nursing home patients: A point prevalence study in a Swedish county

Author(s) Jonsson K., Claesson B.E.B., Hedelin H.

Citation: Scandinavian Journal of Urology and Nephrology, September 2011, vol./is. 45/4(265-269), 0036-5599;1651-2065 (September 2011)

Publication Date: September 2011

Abstract: Objectives. To survey the bacterial flora and antibiotic resistance in urinary strains from patients with indwelling bladder catheters residing in nursing homes within a geographically defined region. Material and methods. Urine was sampled for culture from 163 catheter patients (126 men and 37 women) during a 2 week period in March 2010. Susceptibility testing of the isolated bacteria was compared with all urinary strains (n = 9994) from hospitals and primary healthcare in the same geographical area cultured during the first 6 months of 2010 (control group). Results. Bacteriuria was found in 159 of 163 urine samples (98%). Enterococcus faecalis and Escherichia coli were the most common species, one or both being detected in 72% of the urine samples, while Proteus species were found in 10% and a single isolate of Providentia species was seen. Strains in the study patients were more resistant to antibiotics than in the control group. Particularly large differences were noted for ciprofloxacin in E. coli (16.9% vs 7.3%) and for trimethoprim-sulfamethoxazole in E. faecalis (39.1% vs 24.8%). One extended spectrum beta-lactamase (ESBL)-producing E. coli was cultured (1.3%), compared with 1.6% in the control group. No vancomycin-resistant enterococci (VRE) or methicillin-resistant Staphylococcus aureus (MRSA) were detected. Conclusions. Proteus mirabilis and Providentia species were rarely isolated, in sharp contrast to previous studies from geriatric hospital wards where they have often been in the majority. The limited incidence of ESBL and the absence of VRE and MRSA is gratifying, but the high resistance to antibiotics needs to be assessed on a continuous basis. 2011 Informa Healthcare.

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26. Frequency of colonization by multi-drug resistant organisms among patients hospitalized in a geriatric ward: A one year prospective cohort study

Author(s) Schoevaerdts D., Frennet M., Jamart J., Huang T.D., Bogaerts P., Glupczynski Y.

Citation: European Geriatric Medicine, September 2011, vol./is. 2/(S2), 1878-7649 (September 2011)

Publication Date: September 2011

Abstract: Introduction.- The objectives are to determine prevalence, incidence and risk factors of asymptomatic carriage of extendedspectrum beta-lactamase producing Enterobacteriaceae (ESBLE), methicillin-resistant Staphylococcus aureus (MRSA), and vancomycin- resistant Enterococcus (VRE) in elderly subjects admitted to hospital in a geriatric ward. Method.- During one year, nasal, oropharyngeal, groin, axilla and rectal swabs were prospectively collected upon admission and at discharge for microbiological culture on selective chromogenic agar and broth enrichment. Identification and susceptibility testing of the target pathogens were performed according to conventional laboratory methods. Genotypic characterization of resistance determinants was performed by multiplex PCR assays. Results.- Out of 473 admitted patients between 12.2009 and 12.2010, 337 were included in the study. The observed prevalence upon admission of ESBLE, MRSA and VRE carriage was 11.6% (Confidence Interval 95% (95%CI): 8.2-15.0%), 7.5% (95%CI: 4.6-10.4%) and 0.6% (95%CI: 0.1-2.1%), respectively. Escherichia coli (E. coli) was the most frequently isolated microorganism among ESBLE isolates (89%). The incidence density of ESBLE and MRSA carriage was respectively of 1.8 and 2.4 new cases/1000 patient-days. Using a logistic stepwise regression, the risk factors for ESBLE colonization on admission were: multiple contacts with the hospital within the previous year (Odds Ratio (OR): 2.5; 95%CI: 1.2-5.4; P: 0.017), chronic catheter use (OR: 3.2; 95%CI: 2.0-8.6; P: 0.020) and a high level of dependency measured by the Katz scale (OR: 0.9; 95%CI: 0.7-1.0; P: 0.06). For MRSA, the following risk factors were obtained: chronic wounds (OR: 3.5; CI95%: 1.4-9.0; P: 0.009), antiacid use (OR: 3.0; 95%CI: 1.2-7.5; P: 0.017) and a high level of dependency (OR: 0.7; 95%CI: 0.5-0.9; P: 0.003). At the end of hospital stay, no difference was observed for length of stay, nosocomial infection rate or mortality rate among ESBLE or MRSA carriers. Conclusions.- This study shows a high prevalence of asymptomatic colonization by ESBL-producing E. coli on admission in an acute geriatric ward. This rate is almost twice as high as the prevalence of MRSA carriage. VRE colonization remains low in our setting. A low functional status is a common risk factor for both ESBLE or MRSA colonization and highlights the need to reinforce infection control procedures.

Source: EMBASE

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27. Admission for urinary infection in institutionalized elderly in nursing homes: Micro-organisms, complications and outcomes

Author(s) De Tena Fontaneda A.F., Ramos Cortes M.R.

Citation: European Geriatric Medicine, September 2011, vol./is. 2/(S108), 1878-7649 (September 2011)

Publication Date: September 2011

Abstract: Objectives.- Describe the features of the urinary tract infection (UTI) in institutionalized elderly people. Determine the microorganism most frequently involved. Describe the complications and to analyze the evolution. Method.- Retrospective descriptive study. Assessment of institutionalized elderly in nursing homes who were admitted for urinary tract infection/sepsis to an Acute Care Hospital in Internal Medicine and Geriatrics for a period of 17 months (January 09-May 10). Assessment the clinical outcomes (complications, average stay and readmission) and functional. Microbiological and analytical data are collected. Results.- N = 38. 60.53% were women. Mean age 82.53. 42.10% of the elderly had fever at onset. 58% met criteria for sepsis, requiring Intensive
Care Unit admission the 5.26% of these. Developed acute renal failure almost half of patients (44.74%). Presented acute retention of urine 18.42%, indicating urinary catheter al discharge 10%. The most frequent complication was the delirium that appeared in 34.21% of cases. The microorganism most frequently asylum was E. coli (43.33% of the cultures). In 45% of positive urine cultures multiresistant microorganism was isolated. Died 10.52% of the patients; 36.84% were readmitted on a new UI. The average stay was 10.47 days. In terms of functional status at discharge showed a slight decline, most evident in patients who already had some degree of dependence. Conclusions. - Most of the institutionalized elderly in nursing homes admitted to our hospital for UTI do it with criteria of sepsis. - The micro-organism most frequently implicated in our sample was E. coli multi-resistant. - The most common complications were acute renal failure, urinary retention and delirium. - The UTI in institutionalized elderly generates a large number of clinical complications, average stay high percentage of readmissions, impaired functional status and high mortality. Therefore the UTI in the institutionalized elderly may be considered one of the geriatric syndromes.

**Source:** EMBASE

Available in print at ULHT journal article requests. Complete the online form to obtain articles.

28. Antimicrobial activity of a chlorhexidine intravascular catheter site gel dressing

**Author(s)** Karpanen T.J., Casey A.L., Conway B.R., Lambert P.A., Elliott T.S.J.

**Citation:** Journal of Antimicrobial Chemotherapy, August 2011, vol./is. 66/8(1777-1784), 0305-7453;1460-2091 (August 2011)

**Publication Date:** August 2011

**Abstract:** Objectives: The antimicrobial efficacy of a chlorhexidine gluconate (CHG) intravascular catheter gel dressing was evaluated against methicillin-resistant Staphylococcus aureus (MRSA) and an extended-spectrum beta-lactamase (ESBL)-producing Escherichia coli. Chlorhexidine deposition on the skin surface and release from the gel were determined. Methods: The antimicrobial efficacy was evaluated in in vitro studies following microbial inoculation of the dressing and application of the dressing on the inoculated surface of a silicone membrane and donor skin [with and without a catheter segment and/or 10% (v/v) serum] on diffusion cells. Antimicrobial activity was evaluated for up to 7 days. Chlorhexidine skin surface deposition and release were also determined. Results: MRSA and E. coli were not detectable within 5 min following direct inoculation onto the CHG gel dressing. On the silicone membrane, 3 log and 6 log inocula of MRSA were eradicated within 5 min and 1 h, respectively. Time to kill was prolonged in the presence of serum and a catheter segment. Following inoculation of donor skin with 6 log cfu of MRSA, none was detected after 24 h. Chlorhexidine was released from the gel after a lag time of 30 min and increasing amounts were detected on the donor skin surface over the 48 h test period. The CHG gel dressing retained its antimicrobial activity on the artificial skin for 7 days. Conclusions: The CHG intravascular catheter site gel dressing had detectable antimicrobial activity for up to 7 days, which should suppress bacterial growth on the skin at the catheter insertion site, thereby reducing the risk of infection. The Author 2011. Published by Oxford University Press on behalf of the British Society for Antimicrobial Chemotherapy. All rights reserved.

**Source:** EMBASE

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29. Incidence of bacteremia associated with Central Venous Catheter in patients on hemodialysis

**Author(s)** Gupta P., Set R., Mehta K., Shastrí J.

**Citation:** International Journal of Pharmacy and Pharmaceutical Sciences, July 2011, vol./is. 3/3(135-138), 0975-1491 (July-September 2011)
**Publication Date:** July 2011

**Abstract:** The use of temporary hemodialysis catheters is often complicated by infectious or mechanical complications which are responsible for considerable morbidity and mortality in hemodialysis patients. Aims: To study the incidence of infections associated with Central Venous Catheter (CVC) access and incidence of secondary bacteremia in hemodialysis patients. Also we studied the risk factors and bacteria, commonly associated with CVC infection in hemodialysis patients. Methods: We conducted a prospective study in Nephrology department at a tertiary hospital. Prospective surveillance for hemodialysis catheter related blood stream infections (CRBSI) was performed in hundred patients in whom CVC was the access. Blood culture and Maki's semi-quantitative method for catheter tip were used for processing. Results: Catheter related bacteremia(CRB) was diagnosed in 15 patients(15%). Secondary bacteremia was seen in 5 patients(5%); in 4 patients the source was urinary tract. Age and sex did not alter the risk while diabetes, hypoalbuminemia and anemia contributed to increased risk. Staphylococcus aureus and Coagulase negative Staphyloccocus accounted for majority of CRB episodes, the other being Gram negative organisms like Pseudomonas Spp. and E.coli. All S.aureus isolates were methicillin sensitive i.e. were MSSA. Secondary bacteremia was mainly due to E.coli. Conclusion: Hemodialysis catheters had a significant infection rate with Gram positive organisms being responsible for majority of CRBSI (catheter related blood stream infections) in our hospital.

**Source:** EMBASE

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**30. Antimicrobial lock therapy as an adjunct to management of catheter-related bacteremia: A community hospital experience**

**Author(s)** Tejwani R., Parry M.F.

**Citation:** Infectious Diseases in Clinical Practice, July 2011, vol./is. 19/4(256-261), 1056-9103;1536-9943 (July 2011)

**Publication Date:** July 2011

**Abstract:** BACKGROUND: Episodes of central venous catheter-related bacteremia (CVCB) have become common events in patients with long-term indwelling central venous catheters. Because no standardized treatment for CVCB exists, novel approaches have been used to salvage catheters where vascular access is limited. Use of antibiotic solutions to fill catheter lumens has been shown to prevent CVCB and may be useful for the treatment of already-infected catheters. METHODS: We retrospectively examined patient records over a 10-year period at a 300-bed community hospital to evaluate the effectiveness of antibiotic lock therapy (ALT) for catheter salvage in patients experiencing CVCB to determine what criteria might be useful for clinicians deciding between ALT and device removal. RESULTS: Of 458 episodes of CVCB, ALT was attempted in 116 cases (25.3%). Of these, successful salvage was achieved in 86 cases (74.1%), whereas 30 attempts at salvage (25.9%) failed. Average duration of treatment was 13.4 days. Treatment effectiveness varied based on infecting organism, ranging from 78.9% (15/19) for gram-negative bacilli to 42.8% (9/21) for Staphylococcus aureus. The success of antimicrobial lock therapy was independent of patient age or sex, underlying disease, comorbidity, or catheter type. It was most dependent on the infecting organism and the availability of an appropriate antimicrobial agent to treat it. CONCLUSIONS: Antibiotic lock therapy is a useful, although not universally applicable, treatment for CVCB allowing successful catheter salvage in up to 75% of cases without requiring catheter removal and replacement. Copyright 2011 by National Foundation for Infectious Diseases.

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**31. [Analysis of extended-spectrum CTX-M-14 beta-lactamase (ESBLs) producing Escherichia coli isolates in the same ward over the long term]**
Author(s) Yasunaga S., Terada S., Hayakawa Y., Kato C., Suzuki M., Yamada K., Shibata N.

Citation: Kansenshogaku zasshi. The Journal of the Japanese Association for Infectious Diseases, July 2011, vol./is. 85/4(347-354), 0387-5911 (Jul 2011)

Publication Date: July 2011

Abstract: We bacteriologically and genetically analysed 30 cephalosporin-resistant Escherichia coli strains isolated from specimens from 19 neurology-ward inpatients at our hospital over the 3 years from April 2006 to March 2009, surveying and comparing subjects' backgrounds. Of the 30, 19 (63%) were urine, 6 (20%) sputum, and 3 (10%) blood. We tested extended-spectrum beta-lactamase (ESBLs) production, found in all samples. PCR and gene sequencing showed that 25 strains (83%) were CTX-M-14 and 5 (17%) CTX-M-2. Among CTX-M-14 strains, two cluster groups I and II, were obtained using pulsed-field gel electrophoresis (PFGE). Cluster group I in particular, continued to be detected for 18 months in the same hospital room. The detection rate was high at 13 (68%) in subjects with urinary catheters and morbidity was high in those with a history of cerebrovascular disease, diabetes, and hypertension. Our findings suggest that genetically identical strains may become established and spread in hospitals possibly due to inadequate contact prevention, subjects' immune status, and risk factor existence.

Source: EMBASE

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32. Bloodstream infection after positive catheter cultures: What are the risks in the intensive care unit when catheters are routinely cultured on removal?

Author(s) Mrozek N, Lautrette A, Aumeran C, Laurichesse H, Forestier C, Traoré O, Souweine B

Citation: Critical Care Medicine, 01 June 2011, vol./is. 39/6(1301-1305), 00903493

Publication Date: 01 June 2011

Abstract: OBJECTIVES: The aim of the study was to assess whether an isolated positive catheter culture is predictive of a subsequent bloodstream infection in intensive care unit patients. DESIGN: Retrospective clinical study between 2000 and 2007. SETTING: Intensive care unit of a university hospital. SUBJECTS: All arterial, central venous, and dialysis catheters yielding selected pathogenic microorganisms from isolated positive catheter cultures. Positive catheter culture was defined by a catheter tip culture performed with the Brun-Buisson technique yielding >=10^3 colony-forming units/mL; isolated positive catheter culture by a positive catheter culture without concomitant bloodstream infection due to the microorganism of the positive catheter culture evidenced within 48 hrs before or after catheter removal; and subsequent bloodstream infection by a bloodstream infection developing between 48 hrs and 30 days after catheter removal and due to a selected pathogenic microorganism of an isolated positive catheter culture. Active antibiotic therapy was active if at least one of the antibiotics administered was effective against the selected pathogenic microorganism of the positive catheter culture. INTERVENTION: None. MEASUREMENT AND MAIN RESULTS: The end point of the study was the ratio of the number of subsequent bloodstream infections to that of selected pathogenic microorganisms isolated from positive catheter culture 30 days after catheter removal. A total of 138 isolated positive catheter cultures for 149 selected pathogenic micro-organisms was included in the study. Only two cases (1.3%) of subsequent bloodstream infection were evidenced, one resulting from Escherichia coli and the other from Staphylococcus epidermidis. The incidence of subsequent bloodstream infection did not differ with regard to the presence or absence of active antibiotics at catheter removal: zero of 23 vs. two of 121 (p = 1), respectively. CONCLUSIONS: Our results suggest that the risk of subsequent bloodstream infection in intensive care unit patients when the Brun-Buisson technique is used to define isolated positive catheter culture is low.

Source: CINAHL

Available in print at ULHT journal article requests. Complete the online form to obtain articles.
33. Risk factors for urinary tract infections caused by ESBL-positive E. coli in renal transplant recipients

Author(s) Arslan H., Ozalp O., Azap O., Aktas S., Tekindal A., Haberal M.

Citation: Clinical Microbiology and Infection, May 2011, vol./is. 17/(S813), 1198-743X (May 2011)

Publication Date: May 2011

Abstract: Objectives: Urinary tract infections (UTI) are the most common infections in renal transplant recipients. The aim of this study is to determine the risk factors for UTI caused by extended-spectrum b-lactamase (ESBL) producing Escherichia coli. Methods: Renal transplant recipients with the diagnosis of UTI during the two year period from January 1st, 2009 to December 1st, 2010 were included in this study. Fifty-one adult patients. Demographic characteristics, clinical and laboratory values, antibacterial susceptibility results were evaluated from patient records retrospectively. Risk factors for UTI caused ESBL positive E. coli strains were determined. Results: Sixty-one UTI episodes were diagnosed in 51 patients. Sixty-nine percent of the patients were female. The range of the ages were 18-60 years. More than one UTI episodes were seen in 8 patients. The three leading uropathogens were E. coli, Klebsiella spp and enterococci. E. coli was detected in 41 (67%) episodes, Klebsiella spp. was detected in 11 (18%) episodes and enterococci was detected in 5 (8%) episodes. Twenty-one of the E. coli isolates (51%) were ESBL positive. The antimicrobial resistance rates of ESBL negative and ESBL positive E. coli isolates were shown in the Table. The risk factors determined are hospitalization at the time of diagnosis or hospitalization within 1 month, recent (within 1 month) antibiotic use, urinary catheterization. Conclusion: Risk factors for urinary tract infections caused by ESBL producing bacteria among renal transplant recipients are similar with the other patient groups but nearly half of the uropathogen E. coli strains are ESBL positive in renal transplant recipients. This high percentage of resistant pathogens causes difficulties in the management of these patients. (Table presented).

Source: EMBASE

Available in fulltext at EBSCOhost

Available in print at ULHT journal article requests. Complete the online form to obtain articles.

34. The clinical risk factors and susceptibility to fosfomycin in community-acquired urinary tract infections caused by extended-spectrum beta-lactamase producing escherichia coli

Author(s) Gokcay Canpolat A., Zarakolu P., Turgut D., Asioğlu S., Akova M.

Citation: Clinical Microbiology and Infection, May 2011, vol./is. 17/(S146), 1198-743X (May 2011)

Publication Date: May 2011

Abstract: Objective: The choices of antimicrobial therapy for community-acquired urinary tract infections (CA-UTIs) by extended-spectrum beta-lactamase (ESBL)-producing E. coli appear to be limited. Fosfomycin which can be given by oral route could be effective against for this indication. We attempted to evaluate the epidemiological features, resistance rates and effect of fosfomycin in ESBL-producing E. coli isolated from patients with uncomplicated CA-UTIs. Methods: Single clinical isolates from 139 outpatients between May 2009-July 2010 at Hacettepe University Adult Hospital was included in the study, (E. coli, 45% producing ESBL). Several potential clinical risk factors and sociodemographic features of the study group were evaluated. Susceptibility rates of ESBL-producing and non-producing E. coli isolates to fosfomycin and other antibiotics were determined by disc diffusion and Etest methods according to CLSI criteria. A two-sided chi<sup>2</sup> test was used for statistical analysis. Results: 75.5% of patients were female, mean age was 46.5 years. Female gender (p = 0.01), recent hospitalization and/or antimicrobial therapy in the last 3 months (<0.001), any surgical intervention (p = 0.006),
urological procedures \( (p = 0.033) \), previous UTI \( (p < 0.001) \), intravascular device application \( (p < 0.001) \) all within the previous year, malignancy history \( (p = 0.005) \), urinary catheter usage \( (p = 0.014) \) and presence of renal disease \( (p = 0.028) \) were found as significant predisposing factors for CA-ESBL producing E. coli. The frequency of infections were linearly associated with the severity of underlying renal disease. The antimicrobial resistance rates in ESBL-producing and non-producing isolates were as follows: piperacillin tazobactam 48.7\% vs 0\% \( (p < 0.001) \), amikacin 60.5\% vs 0\% \( (p < 0.001) \), ampicillin 98.7\% vs 15.9\% \( (p < 0.001) \), gentamicin 47.4\% vs 7.9\% \( (p < 0.001) \), ciprofloxacin 100\% vs 14.3\% \( (p < 0.001) \), cefepim 78.9\% vs 0\% \( (p < 0.001) \), ceftazidime 85.5\% vs 0\% \( (p < 0.001) \), nitrofurantoin 37.3\% vs 0\% \( (p < 0.001) \), trimethoprim-sulphamethoxazol 64.5\% vs 20.6\% \( (p < 0.001) \), and fosfomycin 19.4\% vs 0\% \( (p = 0.04) \). Conclusion: Several risk factors were found to be related with increased incidence of ESBL-producing E. coli for CA-UTIs. Antimicrobial resistance and lack of oral options may compromise treatment in the outpatient. Fosfomycin seems to be a possible oral alternative for this indication.

Source: EMBASE
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35. Results of urine culture and antimicrobial sensitivity tests according to the voiding method over 10 years in patients with spinal cord injury

Author(s) Ryu K.H., Kim Y.B., Yang S.O., Lee J.K., Jung T.Y.

Citation: Korean Journal of Urology, May 2011, vol./is. 52/5(345-349), 2005-6737;2005-6745 (May 2011)

Publication Date: May 2011

Abstract: Purpose: We studied the results of urine cultures and antimicrobial sensitivity tests according to the voiding method used by spinal cord injury (SCI) patients over a recent 10-year period. Materials and Methods: We retrospectively analyzed 1,236 urine samples and their antimicrobial sensitivity tests for 112 patients who had used only one voiding method between January 2000 and December 2009. The voiding methods were classified into four groups: clean intermittent catheterization (CIC), suprapubic catheterization, urethral Foley catheter, and spontaneous voiding. Results: Of the 1,236 urine samples, 925 (74.8\%) were positive and 279 (30.2\%) had more than one bacteria. The CIC group showed the lowest rate of bacteriuria, colony counts, and polymicrobial infection \( (p < 0.001) \). Causative organisms were mostly Gram-negative bacteria (84\%), including Pseudomonas aeruginosa (22.9\%), Escherichia coli (21.1\%), Klebsiella species (6.7\%), and Citrobacter species (6.3\%). The rate of Gram-positive bacterial infection was 13.6\%, and major pathogenic organisms were Streptococcus species (8.6\%) and Staphylococcus species (2.6\%). Major pathogenic organisms and the results of antimicrobial sensitivity tests differed according to the voiding method. Conclusions: Although the patient's condition and preferences are important when choosing the method of bladder management, CIC is the best voiding method for reducing urinary tract infections in SCI patients. When immediate use of antibiotics is needed for treatment of urinary tract infections, an appropriate antibiotic can be chosen according to the voiding method on the basis of our study and can be administered before the results of an antimicrobial sensitivity test are available. The Korean Urological Association, 2011.

Source: EMBASE
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36. Risk factors and outcomes of carbapenem-nonsusceptible Escherichia coli bacteremia: A matched case-control study


Citation: Journal of Microbiology, Immunology and Infection, April 2011, vol./is. 44/2(125-
Abstract: Background: Infections due to carbapenem-resistant Enterobacteriaceae have been the emerging problem worldwide. This primary object of this study was to understand the risk factors and clinical outcomes of carbapenem-nonsusceptible Escherichia coli (CNSEc) bacteremia. Methods: We conducted a matched case-control study in a 3,715-bed tertiary care medical center in northern Taiwan. The controls were selected among patients with carbapenem-susceptible E. coli and were matched with CNSEc for bacteremia. Results: Fifty-one patients were included in this study (17 cases and 34 controls). Bivariate analysis showed that prior exposure to carbapenems (p<0.001), stay in intensive care units (p=0.016), placement of central venous catheters (p=0.001), chronic liver diseases (p<0.001), uremia with regular dialysis (p=0.004), and mechanical ventilation (p=0.004) were associated with CNSEc bacteremia. Multivariate analysis revealed that prior exposure to carbapenems [odds ratio (OR), 29.17; 95% confidence interval (CI), 1.76-484.70; p=0.019], uremia with regular dialysis (OR, 98.58; 95% CI, 4.02-999; p=0.005) and chronic liver diseases (OR, 27.86; 95% CI, 2.31-335.83; p=0.009) were independent risk factors for CNSEc bacteremia. Compared with carbapenem-susceptible E. coli group, CNSEc group had a longer hospital stay (68.4 days vs. 35.8 days; p=0.04) and a higher disease severity, as indicated by a Pittsburgh bacteremia score greater than or equal to 4 (5.6% vs. 2.5%; p=0.015). Patients with CNSEc bacteremia had a higher overall in-hospital mortality rate (94.12% vs. 50.00%; p=0.002), but there was no difference in the 28-day mortality between these two groups. Conclusions: CNSEc bacteremia would lead to a poor outcome among patients with prior exposure to carbapenems, chronic liver disease, and uremia with regular dialysis. 2011.

Source: EMBASE
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37. Bacteraemia due to multidrug-resistant gram-negative bacilli in cancer patients: Risk factors, antibiotic therapy and outcomes

Author(s) Gudiol C., Tubau F., Calatayud L., Garcia-Vidal C., Cisnal M., Sanchez-Ortega I., Duarte R., Calvo M., Carratala J.

Citation: Journal of Antimicrobial Chemotherapy, March 2011, vol./is. 66/3(657-663), 0305-7453;1460-2091 (March 2011)

Publication Date: March 2011

Abstract: Objectives: To assess the risk factors, antibiotic therapy and outcomes of multidrug-resistant Gram-negative bacilli (MDRGNB) bacteraemia in hospitalized patients with cancer. Methods: Episodes of MDRGNB bacteraemia were compared with a susceptible control group in a 4 year prospective study. Results: Of 747 bacteraemias, 372 (49.7%) were caused by a Gram-negative bacilli (GNB). Fifty-one of these (13.7%) were caused by a multidrug-resistant (MDR) strain. Previous antibiotics [odds ratio (OR) 3.57; 95% confidence interval (CI) 1.63-7.80] and urinary catheter (OR 2.41; 95% CI 1.01-5.74) were identified as independent risk factors for MDRGNB acquisition. The most frequent mechanism of resistance was extended-spectrum beta-lactamase (ESBL) production (45%), mainly by Escherichia coli, followed by Amp-C cephalosporinase hyperproduction (24%). Patients with MDRGNB bacteraemia more frequently received inadequate initial antibiotic therapy (69% versus 9%; P<0.001) and time to adequate therapy was longer in this group (41% versus 4%; P<0.001). Patients in the resistant group more frequently required intensive care unit (ICU) admission (14% versus 5%; P=0.023), had greater need for mechanical ventilation (14% versus 3%; P=0.005) and had a higher overall case-fatality rate (41% versus 21%; P=0.003). Risk factors for mortality were solid tumour (OR 5.04; 95% CI 2.49-10.19), current corticosteroid use (OR 4.38; 95% CI 2.39-8.05), ICU admission (OR 11.40; 95% CI 3.19-40.74) and MDRGNB bacteraemia (OR 3.52; 95% CI 1.36-9.09). Conclusions: MDRGNB bacteraemia was common among cancer patients, especially in those exposed to antibiotics and urinary catheter. The most frequent mechanism of resistance was ESBL production. Patients with MDRGNB more frequently received inadequate empirical antibiotic therapy and presented poorer outcomes with a higher overall case-fatality rate (within 30 days). The Author 2010. Published by Oxford
38. Risk factors for fluoroquinolone-resistant Escherichia coli in adults with community-onset febrile urinary tract infection

Author(s): van der Starre W.E., van Nieuwkoop C., Paltansing S., van't Wout J.W., Groeneveld G.H., Becker M.J., Koster T., Wattel-Louis G.H., Delfos N.M., Ablij H.C., Leyten E.M., Blom J.W., van Dissel J.T.

Citation: Journal of Antimicrobial Chemotherapy, March 2011, vol./is. 66/3(650-656), 0305-7453;1460-2091 (March 2011)

Publication Date: March 2011

Abstract: Objectives: To assess risk factors for fluoroquinolone resistance in community-onset febrile Escherichia coli urinary tract infection (UTI). Methods: A nested case-control study within a cohort of consecutive adults with febrile UTI presenting at primary healthcare centres or emergency departments during January 2004 through December 2009. Resistance was defined using EUCAST criteria (ciprofloxacin MIC 1.0 mg/L). Cases were subjects with fluoroquinolone-resistant E. coli, and controls those with fluoroquinolone-susceptible isolates. Multivariable logistic regression analysis was used to identify potential risk factors for fluoroquinolone resistance. Results: Of 787 consecutive patients, 420 had E. coli-positive urine cultures. Of these, 51 (12%) were fluoroquinolone resistant. Independent risk factors for fluoroquinolone resistance were urinary catheter [odds ratio (OR) 3.1; 95% confidence interval (CI) 0.9-11.6], recent hospitalization (OR 2.0; 95% CI 1.0-4.3) and fluoroquinolone use in the past 6 months (OR 17.5; 95% CI 6.0-50.7). Environmental factors (e.g. contact with animals or hospitalized household members) were not associated with fluoroquinolone resistance. Of fluoroquinolone-resistant strains, 33% were resistant to amoxicillin/clavulanate and 65% to trimethoprim/sulfamethoxazole; 14% were extended-spectrum b-lactamase (ESBL) positive compared with 1% of fluoroquinolone-susceptible isolates. Conclusions: Recent hospitalization, urinary catheter and fluoroquinolone use in the past 6 months were independent risk factors for fluoroquinolone resistance in community-onset febrile E. coli UTI. Contact with animals or hospitalized household members was not associated with fluoroquinolone resistance. Fluoroquinolone resistance may be a marker of broader resistance, including ESBL positivity. The Author 2010. Published by Oxford University Press on behalf of the British Society for Antimicrobial Chemotherapy. All rights reserved.

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39. Preventing infection in elders with long-term indwelling urinary catheters.

Author(s): Muzzi-Bjornson, Linda, Macera, Liz

Citation: Journal of the American Academy of Nurse Practitioners, 01 March 2011, vol./is. 23/3(127-134), 10412972

Publication Date: 01 March 2011

Abstract: To explore selected factors related to the prevention of catheter-associated urinary tract infections (UTIs) in older adults. This review of the literature examined multiple studies regarding UTIs, and UTIs in relation to silver-tipped catheters, cranberry
juice/extract, and the bacterial lysate Escherichia coli OM-89. Silver-tipped catheters retarded the development of the biofilm. The use of cranberry juice/extract showed few if any adverse reactions and avoided the problems of induced antibiotic resistance or introduction to supra-infections, such as Clostridium difficile infection. The immune stimulant OM-89 shows promise and may lead to simple and inexpensive preventive measures. Further research is needed to include elders, both men and women, and elders with long-term indwelling catheters. Nurse practitioners (NPs) can assure that basic nursing principles regarding long-term indwelling catheter care are upheld, measures such as proper assessment and insertion, as well as the appropriate use of silver-tipped catheters. NPs can prescribe cranberry juice/extract and incur no apparent harm while possibly reducing infection rate. NPs must be aware of the dangers of administering prophylactic antibiotics that increase resistant microorganisms and can also increase susceptibility to C. difficile infection.

Source: CINAHL
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40. Clinical profiles of patients colonized or infected with extended-spectrum beta-lactamase producing Enterobacteriaceae isolates: a 20 month retrospective study at a Belgian University Hospital

Author(s) Schoevaerdts D., Bogaerts P., Grimmelprez A., de Saint-Hubert M., Delaere B., Jamart J., Swine C., Glupczynski Y.

Citation: BMC infectious diseases, 2011, vol./is. 11/(12), 1471-2334 (2011)

Publication Date: 2011

Abstract: Description of the clinical pictures of patients colonized or infected by ESBL-producing Enterobacteriaceae isolates and admitted to hospital are rather scarce in Europe. However, a better delineation of the clinical patterns associated with the carriage of ESBL-producing isolates may allow healthcare providers to identify more rapidly at risk patients. This matter is of particular concern because of the growing proportion of ESBL-producing Enterobacteriaceae species isolates worldwide. We undertook a descriptive analysis of 114 consecutive patients in whom ESBL-producing Enterobacteriaceae isolates were collected from clinical specimens over a 20-month period. Clinical data were obtained through retrospective analysis of medical record charts. Microbiological cultures were carried out by standard laboratory methods. The proportion of ESBL-producing Enterobacteriaceae strains after exclusion of duplicate isolates was 4.5% and the incidence rate was 4.3 cases/1000 patients admitted. Healthcare-associated acquisition was important (n = 104) while community-acquisition was less frequently found (n = 10). Among the former group, two-thirds of the patients were aged over 65 years and 24% of these were living in nursing homes. Sixty-eight (65%) of the patients with healthcare-associated ESBL, were considered clinically infected. In this group, the number and severity of co-morbidities was high, particularly including diabetes mellitus and chronic renal insufficiency. Other known risk factors for ESBL colonization or infection such as prior antibiotic exposure, urinary catheter or previous hospitalisation were also often found. The four main diagnostic categories were: urinary tract infections, lower respiratory tract infections, sepsicaemia and intra-abdominal infections. For hospitalized patients, the median hospital length of stay was 23 days and the average mortality rate during hospitalization was 13% (Confidence Interval 95%: 7-19). Escherichia coli, by far, accounted as the most common ESBL-producing Enterobacteriaceae species (77/114; [68%]) while CTX-M-1 group was by far the most prevalent ESBL enzyme (n = 56). In this retrospective study, the clinical profiles of patients carrying healthcare-associated ESBL-producing Enterobacteriaceae is characterized by a high prevalence rate of several major co-morbidities and potential known risk factors. Both, the length of hospital stay and overall hospital mortality rates were particularly high. A prospective case-control matched study should be designed and performed in order to control for possible inclusion bias.

Source: EMBASE
Available in fulltext at EBSCOhost
41. Risk factors and outcomes of Escherichia coli bacteremia caused by strains that produce CTX-M or non-CTX-M extended-spectrum-beta-lactamases

Author(s) Wu U.-I., Wang J.-L., Chen W.-C., Chang S.-C., Chen Y.-C.

Citation: European Journal of Clinical Microbiology and Infectious Diseases, January 2011, vol./is. 30/1(33-39), 0934-9723 (January 2011)

Publication Date: January 2011

Abstract: To determine whether there are differences in risk factors and outcomes among patients with E. coli bacteremia caused by strains that produce CTX-M or non-CTX-M extended-spectrum beta-lactamases. From 1 July 2005 to 30 June 2007, patients with positive blood culture of extended-spectrum beta-lactamases (ESBL)-producing E. coli were reviewed. Sixty patients with ESBL-producing E. coli bacteremia were identified. These included 41 (68.3%) isolates with CTX-M beta-lactamases. CTX-M-14 accounted for 31 (75.6%) and CTX-M-3 for 9 (22.0%) of the 41 CTX-M isolates. Patients with CTX-M strains were less likely, by univariate analysis, to have significant risk factors for infection including age>=65 years, chronic renal insufficiency, ICU stay at bacteremia onset, central venous catheter use and mechanical ventilation. Multivariate analysis revealed that chronic renal failure and ICU stay were independent predictors. Antibiograms were similar for CTX-M and non-CTX-M producers except that CTX-M strains were significantly more susceptible to cefmetazole (92.7 vs 36.8%, p<0.0001). The overall mortality and length of hospitalization were not significantly different between the two groups. E. coli with CTX-M beta-lactamases was more likely than non-CTX-M strains to invade non-compromised patients. There were no differences in clinical outcomes between the two groups. 2010 Springer-Verlag.

Source: EMBASE

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42. Urinary tract infections during early posttransplant period in adult kidney allograft recipients


Citation: Journal of Medicine, 2011, vol./is. 12/2(103-108), 1997-9797;2075-5384 (2011)

Publication Date: 2011

Abstract: Background: Urinary tract infections (UTIs) represent the most common cause of bacterial infection in renal allograft recipients. The purpose of this study was to evaluate UTI in renal transplant recipients at earlier post transplant period (first 3 months) and isolation of causative organism. Materials & methods: We studied 31 patients (18 males and 13 females), aged 27 +/- 8.8 years. UTIs occurring during the first three months were analyzed. During this period, all episodes of infection, transplant function, graft survival and patient survival were monitored. Results: Twenty two patients had suffered from different types of infection within first 3 months of transplantation, most of the infectious episodes occurred during hospital stay. Most of the infection occurred in urinary tract and most of the episodes of UTI were asymptomatic, presented with bacteriuria. Most of the isolated organisms were Gram negative E.Coli. Out of 51 episodes of bacterial infection, UTIs account for 49 episodes (96%) Patients' age, sex and acute rejection episodes did not correlate with UTI. Patient who had prolonged urethral catheterization had suffered from significantly more number of UTI in comparison to short period of urethral catheterization (p=0.02). Similar incidence of UTI were observed in ureteric stented and non stented patients but non stented patients had suffered from significant number of urological complication (p<0.02). Antibiotic sensitivity pattern revealed that, all isolates were sensitive to ciprofloxacin, ceftriaxone and ceftazidime, ranged between, 67 to 100% and highly
resistant to ampicillin, cotrimoxazole and cephradine. Conclusion: Short term renal graft function was not found to be affected by UTI occurrence. UTIs are common infectious complications in renal transplant recipients and often relapse and require hospitalization.

Source: EMBASE

43. A matched prospective cohort study on Staphylococcus aureus and Escherichia coli bloodstream infections: Extended perspectives beyond resistance.

Author(s) Berger J, Diab-Elschahawi M, Blacky A, Pernicka E, Spertini V, Assadian O, Koller W, Aichberger KJ

Citation: American Journal of Infection Control, 01 December 2010, vol./is. 38/10(839-845), 01966553

Publication Date: 01 December 2010

Abstract: Background: Bacteremias caused by Staphylococcus aureus and Escherichia coli are among the most common bloodstream infections (BSIs) in adults. The aim of the study was to investigate risk factors for infection and clinical outcomes of bacteremias caused by S aureus or E coli. Methods: We conducted a 1-year matched prospective cohort study including 150 patients with BSI caused by susceptible or resistant S aureus or E coli and 300 controls without BSI caused by these organisms. Results: Of the 150 episodes of bacteremia, 37% were caused by S aureus (including 5 cases of methicillin-resistant S aureus [MRSA]) and 63% were caused by E coli (including 9 cases of extended-spectrum beta lactamase [ESBL]-producing E coli). We identified 4 independent risk factors for acquisition of S aureus bacteremia (emergency, peripheral or central vascular catheter, renal disease) and 6 risk factors for E coli bacteremia (emergency, peripheral or central vascular catheter, malignancy, cytoreductive or immunosuppressive therapy). Both types of bacteremia were associated with an increased length of hospital stay compared with controls. We observed a 5-fold increase in the 30-day mortality rate for bacteremias due to S aureus, and a 2-fold increase in BSI caused by E coli. The in-hospital mortality rate was increased by 6-fold for S aureus and by 3-fold for E coli. Conclusion: Longer hospitalization periods and increased mortality of bacteremias caused by S aureus or E coli, irrespective of susceptibility, implicate controlling for risk factors at an early stage.

Source: CINAHL

Available in print at ULHT journal article requests. Complete the online form to obtain articles.

44. Bacteriuria and urinary retention following gynaecological surgery: comparing short vs long term catheterization.

Author(s) Thapa M, Shrestha J, Pradhan BN, Padhye SM

Citation: Journal of Nepal Health Research Council, October 2010, vol./is. 8/2(107-9), 1727-5482;1999-6217 (2010 Oct)

Publication Date: October 2010

Abstract: BACKGROUND: Post operative bladder drainage is important care following gynaecological surgeries. This study was done to compare the incidence of urinary retention and bacteriuria following long term versus short term catheterization.METHODS: The patients who were admitted for gynaecological major surgeries were enrolled in this study. One group of patients had post operative indwelling catheterization for 24 hrs (short term catheterization) and another group of patients had catheterization for more than 48 hrs (long term catheterization). The urine examination and culture sensitivity was sent for all patients at the removal of catheter. The patients were followed after removal of catheter for urinary retention.RESULTS: Total of 102 patients were studied. There were 48 patients in short term catheterization group and 54 patients in long term catheterization group. In short term catheterization group, 3 (6.2%) cases had bacteriuria and no cases of urinary retention were observed. In prolonged catheterization group, 6 cases (11.1%) had bacteriuria and 2 cases (3.7%) had urinary retention.CONCLUSIONS: This study has concluded that short time catheterization following gynaecological surgery had fewer incidences of bacteriuria and urinary retention than long term catheterization.
45. Epidemiology and clinical features of community-acquired, healthcare-associated and nosocomial bloodstream infections in tertiary-care and community hospitals


Citation: Clinical Microbiology and Infection, September 2010, vol./is. 16/9(1408-1413), 1198-743X;1469-0691 (September 2010)

Abstract: Classification of bloodstream infections (BSIs) as community-acquired (CA), healthcare-associated (HCA) and hospital-acquired (HA) has been proposed. The epidemiology and clinical features of BSI according to that classification in tertiary care (TH) and community (CH) hospitals were investigated in a prospective cohort of 821 BSI episodes from 15 hospitals (ten TH and five CH hospitals) in Andalucia, Spain. Eighteen percent were CA, 24% were HCA and 58% were HA. The incidence of CA and HCA BSI was higher in CH than in TH (CA: 3.9 episodes per 1000 admissions vs. 2.2, p <0.01; HCA: 5.0 vs. 2.9, p <0.01), whereas the incidence of HA BSI was lower (7.7 vs. 8.7, p <0.01). In CA and HCA BSI, the respiratory tract was more frequently the source in CH than in TH (CA: 30% vs. 15%; HCA: 20% vs. 9%, p <=0.03). In HCA BSI, chronic renal insufficiency and tunnelled catheters were less frequent in CH than in TH (11% vs. 26% and 7% vs. 19%, p <=0.03), although chronic ulcers were more frequent (22% vs. 8%, p 0.008). BSIs as a result of methicillin-resistant Staphylococcus aureus or Pseudomonas aeruginosa were very rare in CA episodes, although extended-spectrum beta-lactamase-producing Escherichia coli (ESBLEC) caused a similar proportion of all BSIs in CA, HCA and HA episodes. Multivariate analysis revealed no significant difference in mortality rates in CH and TH. HCA infections should be considered as a separate class of BSI in both TH and CH, although differences between hospitals must be considered. CA BSIs were not caused by multidrug-resistant pathogens, except for ESBLEC. 2010 The Authors. Journal Compilation 2010 European Society of Clinical Microbiology and Infectious Diseases.

Source: EMBASE

Available in fulltext at EBSCOhost

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46. Risk Factors for Bloodstream Infections due to Extended-spectrum beta-lactamase-producing Escherichia coli

Author(s) Wu U.-I., Yang C.-S., Chen W.-C., Chen Y.-C., Chang S.-C.

Citation: Journal of Microbiology, Immunology and Infection, August 2010, vol./is. 43/4(310-316), 1684-1182 (August 2010)

Abstract: Background/Purpose: The risk factors for production of extended-spectrum beta-lactamases (ESBLs) have rarely been studied for bloodstream infections of Escherichia coli alone. A case-control study was undertaken to identify the risk factors associated with bloodstream infections caused by ESBL producing E. coli. Methods: From January 1, 2005 to June 30, 2007, all patients with a confirmed diagnosis of bloodstream infection caused by ESBL-producing E. coli were reviewed. Each patient was matched with one control subject who experienced ESBL-negative E. coli bacteremia during the same study period. Results: Of the 97 patients diagnosed with ESBL-producing E. coli bacteremia, six were excluded owing to incomplete follow-up and missing data. Comparisons were made between 91 patients and their controls. Multivariate analysis identified urinary catheterization [odds ratio (OR) = 6.21, 95% confidence interval (CI) = 1.91-20.25; p = 0.003], prior exposure to antibiotics (OR = 2.93, 95% CI = 1.18-7.30; p = 0.021) and previous treatment with oxyimino-cephalosporins (OR = 5.16, 95% CI = 1.03-25.79; p =
0.046) as independent predictors for bloodstream infection by ESBL-producing E. coli. Conversely, patients classified as having a community-acquired infection were less likely to acquire bacteremia caused by ESBL-producing E. coli than those caused by non-ESBL-producing E. coli (OR = 0.22, 95% CI = 0.09-0.57; p = 0.002). Conclusion: More judicious use of antimicrobial agents, especially oxyimino-cephalosporins, and avoidance of urinary catheterization may decrease the possibility of ESBL-producing E. coli bacteremia in hospitalized patients. 2010 Taiwan Society of Microbiology.

Source: EMBASE

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47. Frequency of catheter related infections in haemodialysed uraemic patients

Author(s) Qureshi A.L., Abid K.
Citation: Journal of the Pakistan Medical Association, August 2010, vol./is. 60/8(671-675), 0030-9982 (August 2010)
Publication Date: August 2010
Abstract: Objective: To investigate the incidence of bacteraemia and bacterial colonization related to the use of dualumen catheters in ESRD patients on haemodialysis. Methods: Sixty patients with ESRD of varied etiologies, both males and females falling in the age range (16-74 years) were randomly selected. Non-cuffed, non-tunneled polyurethane double lumen catheters were inserted under aseptic technique. Patients on twice a week schedule of haemodialysis were followed up for a period of 5 months. After every haemodialysis session, catheters were examined for any local infection or signs of bacteraemia. In case of suspicion, distal 5 cm segment of the catheter, and local pus swab and two blood culture samples were sent to the pathology laboratory. Result: Thirty one catheters (51.6%) sent for culture and sensitivity showed colonization (>15 CFU). Bacteraemia was positive in 15 (25%) patients. Thirteen (41.9%) catheter tips were found to be colonized by staphylococcus epidermidis, eleven (35.4%) by staphylococcus aureus, three (0.96%) by Candida albicans species, two (6.45%) by E coli, one (3.2%) by P Aeruginosa and one (3.2%) by mixed Pseudomonas and E coli respectively. Conclusion: Non cuffed non tunneled double lumen catheters are designed for short term emergency use and should be used in the same context. Although pathogenesis of catheter related infection is multifactorial the transcutaneous migration of organisms colonizing the skin remains the most important route.

Source: EMBASE

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48. Prevalence and risk factors for extended spectrum beta-lactamase-producing uropathogens in patients with urinary tract infection

Author(s) Lee D.S., Lee C.B., Lee S.-J.
Citation: Korean Journal of Urology, July 2010, vol./is. 51/7(492-497), 2005-6737;2005-6745 (July 2010)
Publication Date: July 2010
Abstract: Purpose: The aim of this study was to determine the prevalence and risk factors of extended spectrum beta-lactamase (ESBL)-producing microorganisms in urinary tract infection. Materials and Methods: A total of 2,312 patients older than 25 years and diagnosed from January 2007 to December 2009 as having urinary tract infection were studied. The prevalence of ESBL-producing microorganisms including Escherichia coli and the antimicrobial susceptibility of E. coli were examined. Univariate analyses were performed with gender, age, inpatient status, previous hospitalization, recent history of urinary catheterization, recent exposure to specific antibiotics, and past history of urogenital organ operation as risk factors for the emergence of ESBL-producing microorganisms. Then, multivariate analysis was performed with all significant variables. Results: In outpatient urinary tract infection, the antimicrobial susceptibility of E. coli to each of the
third-generation cephalosporins, cefotaxime, ceftazidime, and ceftriaxone, was 87.6%, 93.4%, and 87.7%, respectively, and the prevalence of ESBL-producing E. coli was 12.1%. In inpatient urinary tract infection, the susceptibility of E. coli was 78%, 84.5%, and 76.9%, respectively, and the prevalence was 23.1%. Conclusions: The overall prevalence of ESBL-producing microorganism was 12.6% and the risk appeared to be increased in cases with a previous hospitalization, a recent history of urinary catheterization, inpatient status, cefaclor medication, cefminox administration, and female gender. The Korean Urological Association, 2010.

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49. Escherichia coli isolates causing asymptomatic bacteriuria in catheterized and noncatheterized individuals possess similar virulence properties


Citation: Journal of Clinical Microbiology, July 2010, vol./is. 48/7(2449-2458), 0095-1137;1098-660X (July 2010)

Publication Date: July 2010

Abstract: Urinary tract infections (UTIs) are among the most common infectious diseases of humans, with Escherichia coli being responsible for >80% of all cases. Asymptomatic bacteriuria (ABU) occurs when bacteria colonize the urinary tract without causing clinical symptoms and can affect both catheterized patients (catheter-associated ABU [CA-ABU]) and noncatheterized patients. Here, we compared the virulence properties of a collection of ABU and CA-ABU nosocomial E. coli isolates in terms of antibiotic resistance, phylogenetic grouping, specific UTI-associated virulence genes, hemagglutination characteristics, and biofilm formation. CA-ABU isolates were similar to ABU isolates with regard to the majority of these characteristics; exceptions were that CA-ABU isolates had a higher prevalence of the polysaccharide capsule marker genes kpsMT II and kpsMT K1, while more ABU strains were capable of mannose-resistant hemagglutination. To examine biofilm growth in detail, we performed a global gene expression analysis with two CA-ABU strains that formed a strong biofilm and that possessed a limited adhesin repertoire. The gene expression profile of the CA-ABU strains during biofilm growth showed considerable overlap with that previously described for the prototype ABU E. coli strain, 83972. This is the first global gene expression analysis of E. coli CA-ABU strains. Overall, our data suggest that nosocomial ABU and CA-ABU E. coli isolates possess similar virulence profiles. Copyright 2010, American Society for Microbiology. All Rights Reserved.

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50. Risk factors for urinary tract infections due to ciprofloxacin-resistant Escherichia coli in a tertiary care urology department in Switzerland

Author(s) Nicoletti J., Kuster S.P., Sulser T., Zbinden R., Ruef C., Ledergerber B., Weber R.

Citation: Swiss Medical Weekly, July 2010, vol./is. 140/JULY, 1424-7860 (July 2010)

Publication Date: July 2010

Abstract: Questions under study: Monitoring of antimicrobial resistance is a key component of antibiotic stewardship programs. In 2007, a significantly higher resistance rate of Escherichia coli to ciprofloxacin was found at the Department of Urology, University
Hospital Zurich, Switzerland, when compared to other hospital units. Thus, we aimed to determine the risk factors for this increased fluoroquinolone resistance in outpatients and inpatients with urinary tract infection (UTI) or colonisation with E. coli. Methods: We performed a cross-sectional study including 275 patients of the Department of Urology in whom E. coli was isolated from urine or blood cultures between 01.01.2006 and 31.08.2007. Clinical data were collected from patients’ records using a structured questionnaire. Multivariable analysis was performed for the detection of risk factors.

Results: Ciprofloxacin-resistant E. coli was detected in 22% of patients. Risk factors for ciprofloxacin-resistant E. coli included prior use of fluoroquinolones (odds ratio [OR] [95% confidence intervals]: 2.24 (1.08-4.62), p = 0.030), prior urinary tract catheterisation (OR: 2.41 (1.02-5.67), p = 0.044) and recurrent UTIs (OR: 2.26 (1.07-4.78), p = 0.032). 60.8% of all prescriptions in urinary tract infections were for fluoroquinolones, and this antibiotic class was the empirical antibiotic regimen of choice in 72.5% of all acute, uncomplicated, urinary tract infections. Conclusions: The increasing prevalence of ciprofloxacin-resistant E. coli makes empiric therapy in UTIs with this agent questionable, especially in patients with one or several of the above-mentioned risk factors. Due to the increasing resistance rate, continuous surveillance and susceptibility testing in individual patients, particularly with complicated UTIs, is indispensable for adequate therapy.

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51. Clinical Implications, Risk Factors and Mortality Following Community-onset Bacteremia Caused by Extended-spectrum beta-lactamase (ESBL) and non-ESBL Producing Escherichia coli

Author(s) Hsieh C.-J., Shen Y.-H., Hwang K.-P.

Citation: Journal of Microbiology, Immunology and Infection, June 2010, vol./is. 43/3(240-248), 1684-1182 (June 2010)

Publication Date: June 2010

Abstract: Background/Purpose: Infections caused by extended-spectrum beta-lactamase (ESBL)-producing bacteria have become a serious clinical concern worldwide. The occurrence of ESBLs in Taiwan has been well-documented and is reviewed in recent publications. However, studies comparing community-onset bacteremia caused by ESBL- and non-ESBL-producing Escherichia coli are limited. Methods: We retrospectively reviewed the medical records of patients with E. coli bacteremia who visited the emergency department of Kaohsiung Chang Gung Memorial Hospital from January 2005 to December 2006. Clinical data were collected to compare the clinical features of patients with ESBL-producing E. coli with those of patients with non-ESBL-producers and to identify the risk factors associated with ESBL-producing E. coli bacteremia. Results: There were 404 episodes of community-onset E. coli bacteremia. The overall 30-day mortality rate was 11.4% (46/404) and the mortality rate of healthcare-associated infections was significantly higher than that of community-acquired infections [4/13 (30.8%) vs. 42/391 (10.7%); p = 0.049]. Nonurinary focus was independently associated with an increased risk of mortality [47/178 (26.4%) vs. 4/226 (1.8%); p < 0.001]. The frequency of ESBL producers was 4.7% (19/404). Of these, four (21.1%) were associated with a long-term care facility. Significant risk factors associated with ESBL-producing E. coli bacteremia included recent antibiotic exposure (within 30 days) and urinary catheter placement. Although the trend was towards higher mortality in patients with ESBL-producing E. coli bacteremia, the difference did not reach statistical significance compared with the mortality of patients with non-ESBL E. coli bacteremia. Conclusion: Fewer than 5% of community-onset E. coli bacteremia episodes in Southern Taiwan were due to ESBL-producers. Prior antibiotic use within 30 days and urinary catheter placement were independently associated with ESBL-producing E. coli bacteremia. 2010 Taiwan Society of Microbiology.

Source: EMBASE

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52. Impact of Extended-spectrum beta-lactamase-producing Escherichia coli and Klebsiella pneumoniae on the Outcome of Community-onset Bacteremic Urinary Tract Infections

Author(s) Yang Y.-S., Ku C.-H., Lin J.-C., Shang S.-T., Chiu C.-H., Yeh K.-M., Lin C.-C., Chang F.-Y.

Citation: Journal of Microbiology, Immunology and Infection, June 2010, vol./is. 43/3(194-199), 1684-1182 (June 2010)

Publication Date: June 2010

Abstract: Background/Purpose: The number of community-onset bacteremic urinary tract infections (UTIs) caused by Escherichia coli and Klebsiella pneumoniae is increasing. However, the impact of extended-spectrum beta-lactamase (ESBL)-producing E. coli and K. pneumoniae (ESBL-EK) on bacteremic UTI outcomes is unknown. The aim of this study was to retrospectively analyze the impact of ESBL-EK on community-onset bacteremic UTIs. Methods: Of the 58 patients enrolled, 12 suffered from ESBL-EK-caused community-onset bacteremic UTIs. Patients were categorized into ESBL (n=12) and non-ESBL (n=46) groups. Diagnosis was based on findings of concurrent bacteremia and bacteriuria caused by the same pathogen on admission. Results: The ESBL group had significantly more male patients (66.7% vs. 23.9%; p=0.005), indwelling urinary catheters (41.7% vs. 6.5%; p=0.002), patients admitted from other healthcare facilities (50.0% vs. 8.7%; p=0.001), and patients with higher Acute Physiology and Chronic Health Evaluation II scores (23.3 +/- 7.1 vs. 15.9 +/- 6.3; p=0.001) and intensive care unit admissions (41.7% vs. 4.4%; p=0.003) than the non-ESBL group. Multiple logistic regression analysis revealed that male gender (odds ratio=9.2; 95% confidence interval=1.7-50.6) and healthcare facility residency (odds ratio=15.5; 95% confidence interval=2.4-98.9) were independent risk factors for ESBL-producer infections among bacteremic UTIs. Although the mortality rate of both groups was similar (8.3% vs. 4.4%; p=0.403), the ESBL group had longer hospital stays (16.3 +/- 9.3 days vs. 7.9 +/- 5.2 days; p=0.010) and higher antibiotic costs (615.1 +/- 423.5 USD vs. 252.8 +/- 269.2 USD, p=0.014). Conclusion: Male gender and healthcare facility residency are risk factors for ESBL-producer infections among patients with community-onset bacteremic UTIs. Patients with bacteremic UTIs caused by ESBL-EK also have prolonged hospital stays and higher antibiotic costs. Early detection of ESBLs and appropriate antibiotic coverage are likely to shorten hospital stays and reduce medical costs. 2010 Taiwan Society of Microbiology.

Source: EMBASE

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53. Investigation of distribution of bacteria and fungi in severe acute pancreatitis

Author(s) Peng Y.B., Huang J., Qin S., Wu J., Mao E.Q., Tang Y.Q., Zhang S.D.

Citation: Zhonghua wai ke za zhi [Chinese journal of surgery], April 2010, vol./is. 48/7(496-501), 0529-5815 (1 Apr 2010)

Publication Date: April 2010

Abstract: To investigate the spectrum of bacteria and fungi in different sites in severe acute pancreatitis (SAP). The prospective study was performed in 205 patients with SAP treated from January 2000 to December 2008. The Infection rate of bacteria and fungi was observed prospectively in pancreatic necrosis and/or pus form abdomen, body fluids and deep vein catheter in SAP. Body fluids and pancreatic necrosis were cultured twice a week. Central venous catheter was cultured when it had been placed for two weeks. Blood was cultured for bacteria and fungi when body temperature was more than 39 degrees C. Constituent ratio of bacteria and fungi was observed in different sites and in all sites within 28 days after onset of SAP. There were 937 pathogens, among which infection rates of gram-negative bacteria was higher than gram-positive bacteria and fungi (P < 0.05), the infection rates of gram-positive bacteria and fungi were similar. Infection rates of gram-negative bacteria in pancreatic necrosis (55.2%), bile (55.4%), blood (68.1%) and central venous catheter (44.4%) were increased significantly (P < 0.05) compared with gram-
positive bacteria and (30.2%, 33.9%, 23.4%, 38.9%) and fungi (14.6%, 10.7%, 8.5%, 16.7%); however, infection rate of fungi (59.6%) was increased significantly (P < 0.05) compared with gram-negative bacteria (24.0%) and gram-positive bacteria (16.3%) in urine; infection rate of gram-negative bacteria (53.2%) was significantly higher (P < 0.05) than that of fungi (27.1%) and gram-positive bacteria (19.7%) in sputum. Infection rate of non-zymogenic bacteria (Pseudomonas aeruginosa, Acinetobacter baumannii and Stenotrophomonas maltophilia) in gram-negative bacteria in pancreatic necrosis, bile, blood, central venous catheter and sputum was significantly higher than that of zymogenic bacteria (Klebsiella pneumoniae, Escherichia coli and Enterobacter cloacae) (P < 0.01); infection rate of zymogenic bacteria (Klebsiella pneumoniae, Escherichia coli) was higher significantly (P < 0.01) than that of non-zymogenic bacteria (Pseudomonas aeruginosa, Acinetobacter baumannii). Infection rate of staphylococcus aureus, Staphylococcus epidermidis and Staphylococcus haemolyticus was significantly higher (P < 0.05) than that of Enterococcus faecalis and Enterococcus faecium in pancreatic necrosis and sputum; but infection rate of Enterococcus faecium in bile and urine was significantly higher than other gram-positive bacteria (P < 0.05). There was not difference among gram-positive bacteria; however, infection rate of Staphylococcus epidermidis in central venous catheter was increased significantly (P < 0.05). Infection rate of candida mycoderma in pancreatic necrosis, bile, urine and sputum was significantly higher than that of tricho bacteria (P < 0.05). The peak of infection rate of microbes in body fluid was within 2 to 3 weeks. Constituent ratio in gram-negative, gram-positive bacteria and fungi as well as their species in different sites is diverse. The peak of infection rate of microbes is 2 to 3 weeks after onset of the disease.

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54. Infectious risk associated with arterial catheters compared with central venous catheters


Citation: Critical Care Medicine, April 2010, vol./is. 38/4(1030-1035), 0090-3493;1530-0293 (April 2010)

Publication Date: April 2010

Abstract: Background: Scheduled replacement of central venous catheters and, by extension, arterial catheters, is not recommended because the daily risk of catheter-related infection is considered constant over time after the first catheter days. Arterial catheters are considered at lower risk for catheter-related infection than central venous catheters in the absence of conclusive evidence. Objectives: To compare the daily risk and risk factors for colonization and catheter-related infection between arterial catheters and central venous catheters. Methods: We used data from a trial of seven intensive care units evaluating different dressing change intervals and a chlorhexidine-impregnated sponge. We determined the daily hazard rate and identified risk factors for colonization using a marginal Cox model for clustered data. Results: We included 3532 catheters and 27,541 catheter-days. Colonization rates did not differ between arterial catheters and central venous catheters (7.9% [11.4/1000 catheter-days] and 9.6% [11.1/1000 catheter-days], respectively). Arterial catheter and central venous catheter catheter-related infection rates were 0.68% (1.0/1000 catheter-days) and 0.94% (1.09/1000 catheter-days), respectively. The daily hazard rate for colonization increased steadily over time for arterial catheters (p = .006) but remained stable for central venous catheters. Independent risk factors for arterial catheter colonization were respiratory failure and femoral insertion. Independent risk factors for central venous catheter colonization were trauma or absence of septic shock at intensive care unit admission, femoral or jugular insertion, and absence of antibiotic treatment at central venous catheter insertion. Conclusions: The risks of colonization and catheter-related infection did not differ between arterial catheters and central venous catheters, indicating that arterial catheter use should receive the same precautions as central venous catheter use. The daily risk was constant over time for central venous catheter after the fifth catheter day but increased significantly over time after the seventh
day for arterial catheters. Randomized studies are needed to investigate the impact of scheduled arterial catheter replacement. 2010 by the Society of Critical Care Medicine and Lippincott Williams & Wilkins.

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55. Surveillance of catheter-associated urinary tract infection in 4 intensive care units at Alexandria university hospitals in Egypt

Author(s) Talaat M., Hafez S., Saied T., Elfeky R., El-Shoubary W., Pimentel G.

Citation: American Journal of Infection Control, April 2010, vol./is. 38/3(222-228), 0196-6553 (April 2010)

Publication Date: April 2010

Abstract: Background: We sought to measure the incidence rate of catheter-associated urinary tract infections (CAUTIs), identify risk factors associated with acquiring the infections; and identify the etiologic and antibiotic resistant patterns associated with CAUTIs in the intensive care units (ICUs) of a large University Hospital in Alexandria, Egypt. Methods: Prospective active surveillance of CAUTIs was conducted in 4 ICUs during a 13-month period from January 1, 2007 through January 31, 2008 in Alexandria University Hospital using the standard Centers for Disease Control National Nosocomial Infection Surveillance (NNIS) case definitions. Rates were expressed as the number of infections per 1000 catheter days. Results: During the study period, 757 patients were monitored after ICU admission, with either existing indwelling urinary catheters (239), or got catheters inserted after ICU admission (518), for a total duration of 16301 patient days, and 10260 patient catheter days. A total of 161 episodes of infection were diagnosed, for an overall rate of 15.7 CAUTIs per 1000 catheter days. Important risk factors associated with acquiring CAUTI were female gender (Relative risk (RR), 1.7; 95% confidence interval (CI); 1.7-4.3), and previous catheterization within the same hospital admission (RR, 1.6; 95% CI; 1.3-1.96). Patients admitted to the chest unit, patients =40 years, patients with prolonged duration of catheterization, prolonged hospital and ICU stay had a significantly higher risk of acquiring CAUTIs. Out of 195 patients who had their urine cultured, 188 pathogens were identified for 161 infected patients; 96 (51%) were Candida, 63 (33.5%) gram negatives, 29 (15.4%) gram positives. The prevalence of ESBL producers among K. pneumoniae and E. coli isolates was 56% (14/25) and 78.6% (11/14), respectively. Conclusion: Despite infection control policies and procedures, CAUTI rates remain a significant problem in Alexandria University hospital. Using the identified risk factors, tailored intervention strategies are now being implemented to reduce the rates of CAUTIs in these 4 ICUs. 2010 Association for Professionals in Infection Control and Epidemiology, Inc.

Source: EMBASE

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56. Predicting health care associated infections (HAI) in a high incidence low cost intensive care unit

Author(s) George G., Kumar S., Sivagnanam K., Srikanth P.

Citation: International Journal of Infectious Diseases, March 2010, vol./is. 14/(e259), 1201-9712 (March 2010)

Publication Date: March 2010

Abstract: Background: All across the world it has been documented that Health care associated infections increase the costs of medical care, morbidity and mortality and are a challenge in health care delivery. Our objective was to to predict the possibility, properties and antibiotic susceptibility of HAI in patients in an ICU. Methods: All patients admitted to an adult multi disciplinary ICU between July 1-August 15 2009 were monitored
prospectively in our pilot study. Information on clinical parameters, risk factors, co-morbid conditions, culture source, organisms isolated and antibiotic susceptibility was documented and analysed using appropriate statistical software. The probability of a HAI in the presence of risk factor(s) was calculated. The probability of involvement of specific systems or organisms, given a HAI was calculated. Results: In all 108 patients were studied. 104 cultures were performed on 51 of the 108 patients. The only significant risk factors (p < 0.01) for HAI were found to be duration of stay (eg. independent probabilities of 0.25 and 1 at 5 and 20 days respectively), duration of IV lines and urinary catheterization (irrespective of duration). Probability of pulmonary and urinary infections respectively increased independently with duration of hospital stay and catheterization (eg. probability of a pulmonary infection at 20 days-0.55). Most of the isolates were gram negative. The probability of a urine culture growing Klebsiella or E.coli was 0.5. The probability of de novo sepsis was 0.13 while the probability of sepsis occurring in the presence of a preceding pulmonary or urinary infection was 0.3 irrespective of duration of stay. The independent probability of being infected with an MDR organism within 20 days of stay was 0.11. The probability of E.Coli, Klebsiella, Acinetobacter and Pseudomonas being MDR were 0.78, 0.36, 1 and 1 respectively. Most of the Acinetobacter were found to be sensitive to Imipenem(75%), Ecoli to Imipinem(85.7%) and Amikacin(71.4%), Enterococci to Linezolid(100%) and Vancomycin(100%). Sensitivity of Pseudomonas was high to Amikacin(75%) and Ciprofloxacine(71.4%) but low to Imipinem(25%). Conclusion: Dynamic monitoring of HAI can help predict their occurrence and most likely susceptibility pattern of the most likely organism(s) for a given set of risk factors prior to culture. This can help choose better empirical antibiotics and decrease morbidity associated with HAI.

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57. Risks factors for infections with extended-spectrum beta-lactamase-producing escherichia coli and klebsiella pneumoniae at a tertiary care university hospital in Switzerland

Author(s) Kuster S.P., Hasse B., Huebner V., Bansal V., Zbinden R., Ruef C., Ledergerber B., Weber R.

Citation: Infection, February 2010, vol./is. 38/1(33-40), 0300-8126 (February 2010)

Publication Date: February 2010

Abstract: Background: There are considerable geographical differences in the occurrence of extended-spectrumbeta-lactamase (ESBL)-producing bacteria, both in the community and in the hospital setting. Our aim was to assess risk factors for bloodstream, urinary tract, and vascular catheter-associated infections with ESBL-producing Escherichia coli and Klebsiellapneumoniae at a tertiary care hospital in a low-prevalence country. Methods: We performed a case-control study comparing 58 patients with infections due to ESBL-producing E. coli or K. pneumoniae vs 116 controls with infections due to non-ESBL producing organisms at the University Hospital Zurich, Switzerland, between 1 July 2005 and 30 June 2007. Results: Cases included 15 outpatients and 43 inpatients. Multivariable analyses found three risk factors for ESBL-producing isolates: begin of symptoms or recent antibiotic pre-treatment in a foreign country [odds ratio [OR] 27.01, 95% confidence interval [CI] 2.38-1,735.28], p = 0.042), antibiotic therapy within the year preceding the isolation of the ESBL-producing strain (OR 2.88, 95% CI 1.13-6.49, p = 0.025), and mechanical ventilation (OR 10.56, 95% CI 1.06-579.10, p = 0.042). Conclusions: The major risk factors for infections due to ESBL-producing bacteria were travel in high-prevalence countries, prior antibiotic use, and mechanical ventilation during a stay in the intensive care unit. Community-acquired infections were documented in 17% of the patients. An early identification of risk factors is crucial to providing patients an optimal empiric antibiotic therapy and to keep the use of carbapenems to a minimum. 2010 Urban & Vogel.

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58. Community-onset bacteremia due to extended-spectrum beta-lactamase-producing Escherichia coli: Risk factors and prognosis


Citation: Clinical Infectious Diseases, January 2010, vol./is. 50/1(40-48), 1058-4838 (January 2010)

Publication Date: January 2010

Abstract: Background. There is little clinical information about community-onset bloodstream infections (COBSIs) caused by extended-spectrum beta-lactamase (ESBL)-producing Escherichia coli (ESBLEC). We investigated the prevalence and risk factors for COBSI due to ESBLEC, and described their clinical features and the impact of COBSI caused by ESBLEC on 14-day mortality. Methods. Risk factors were assessed using a multicenter case-control study. Influence of ESBL production on mortality was studied in all patients with COBSI due to E. coli. Isolates and ESBLs were microbiologically characterized. Statistical analysis was performed using multivariate logistic regression. Thirteen tertiary care Spanish hospitals participated in the study. Results. We included 95 case patients with COBSI due to ESBLEC, which accounted for 7.3% of all COBSI due to E. coli. The ESBL in 83 of these (87%) belonged to the CTX-M family of ESBL, and most were clonally unrelated. Comparison with both control groups disclosed association with health care (odds ratio [OR], 2.1; 95% confidence interval [CI], 1.2-3.8), urinary catheter use (OR, 3.1; 95% CI, 1.5-6.5), and previous antimicrobial use (OR, 2.7; 95% CI, 1.5-4.9) as independent risk factors for COBSI due to ESBLEC. Mortality among patients with COBSI due to ESBLEC was lower among patients who received empiric therapy with beta-lactam/beta-lactam inhibitor combinations or carbapenems (8%-12%) than among those receiving cephalosporins or fluoroquinolones (24% and 29%, respectively). Mortality among patients with COBSI due to E. coli was associated with inappropriate empirical therapy irrespective of ESBL production. Conclusions. ESBLEC is an important cause of COBSI due to E. coli. Clinicians should consider adequate empirical therapy with coverage of these pathogens for patients with risk factors. 2009 by the Infectious Diseases Society of America. All rights reserved.

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59. Bacteriological profile of epidural catheters

Author(s) Sahay B.M., Dahake S., Mendiratta D.K., Deotale V., Premendran B., Dhande P.S., Nagang P.

Citation: JK Science, January 2010, vol./is. 12/1(23-26), 0972-1177 (Jan-March 2010)

Publication Date: January 2010

Abstract: The bacteriological profile of epidural catheters was studied in 88 patients. Skin swabs before catheterization and before removal of catheter with their controls were cultured in TSB Medium. The catheter hub, the portion at the skin puncture site and at the tip were cultured in TSB Medium. The 1cm of the catheter bit just before the tip was cultured in TGB medium for anaerobes. Both, the skin controls swabs and the anaerobic culture, were negative. From the remaining, 56 positive cultures were obtained. Staphylococcus epidermidis was the predominant organism in 52% followed by staphylococcus aureus 25%. The remaining 23% was shared by Acinetobacter, Pseudomonas, Klebsiella, and E. coli. All the positive cultures from skin prior to epidural catheterization had turned sterile by 48 hours, indicating continued bactericidal action of the disinfectant. The likely source of positive skin cultures at 48 hours is hair follicles. The catheter tip culture was positive in 9 specimen, none of which resulted in the formation of epidural abscess. In 3 cases the cultures of skin puncture site and the tip were identical indicating tracking-in of the organisms.
60. Urinary tract infection in elderly patients

Author(s) Tanaka K., Arakawa S., Fujisawa M.

Citation: Japanese Journal of Geriatrics, 2010, vol./is. 47/6(565-568), 0300-9173 (2010)

Publication Date: 2010

Abstract: Urinary tract infections (UTIs) in the elderly are common. The pathophysiology of increased susceptibility is multifactorial. Age-related changes include a decline in cell-mediated immunity, neurogenic bladder dysfunction, structural urinary tract abnormalities (e.g., benign prostatic hyperplasia), systemic diseases (e.g., diabetes mellitus) and increased incidence of urethral catheter placement. Catheter-associated bacteriuria is the most common hospital-acquired infection. Many elderly patients, including those with catheter-associated bacteriuria, are asymptomatic. Escherichia coli remains the most common uropathogen. However, polymicrobial infection is more common among the elderly. The use of antimicrobial agents needs to be guided by current surveillance studies of targeted uropathogenic bacteria before being implemented. However, UTIs in the elderly may lead to severe renal infections. Therefore surgical intervention may be needed in these infections.


Citation: Clinical Infectious Diseases, January 2010, vol./is. 50/1(40-8), 1058-4838;1537-6591 (2010 Jan 1)

Publication Date: January 2010

Abstract: BACKGROUND: There is little clinical information about community-onset bloodstream infections (COBSIs) caused by extended-spectrum beta-lactamase (ESBL)-producing Escherichia coli (ESBLEC). We investigated the prevalence and risk factors for COBSI due to ESBLEC, and described their clinical features and the impact of COBSI caused by ESBLEC on 14-day mortality.METHODS: Risk factors were assessed using a multicenter case-control study. Influence of ESBL production on mortality was studied in all patients with COBSI due to E. coli. Isolates and ESBLs were microbiologically characterized. Statistical analysis was performed using multivariate logistic regression. Thirteen tertiary care Spanish hospitals participated in the study.RESULTS: We included 95 case patients with COBSI due to ESBLEC, which accounted for 7.3% of all COBSI due to E. coli. The ESBL in 83 of these (87%) belonged to the CTX-M family of ESBL, and most were clonally unrelated. Comparison with both control groups disclosed association with health care (odds ratio [OR], 2.1; 95% confidence interval [CI], 1.2-3.8), urinary catheter use (OR, 3.1; 95% CI, 1.5-6.5), and previous antimicrobial use (OR, 2.7; 95% CI, 1.5-4.9) as independent risk factors for COBSI due to ESBLEC. Mortality among patients with COBSI due to ESBLEC was lower among patients who received empirical therapy with beta-lactam/beta-lactam inhibitor combinations or carbapenems (8%-12%) than among those receiving cephalosporins or fluoroquinolones (24% and 29%, respectively). Mortality among patients with COBSI due to E. coli was associated with inappropriate empirical therapy irrespective of ESBL production.CONCLUSIONS: ESBLEC is an important cause of COBSI due to E. coli. Clinicians should consider adequate empirical therapy with coverage of these pathogens for patients with risk factors.

... Escherichia coli is the most frequent species isolated, although it comprises fewer than one-third of isolates [77]. ... and enterococci were >10-fold higher in the indwelling catheter than they were in the replacement catheter, whereas concentrations of E. coli and K ... Cited by 105 - Related articles - Lancashire Teaching Hospitals - Find@The Christie - All 32 versions

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J Rodríguez-Baño, E Picón, P Gijón... - Clinical Infectious ..., 2010 - cid.oxfordjournals.org

... Health care association (particularly long-term care residency), urinary catheter use, and previous antimicrobial use (particularly fluoroquinolones) were ... In conclusion, ESBL-producing E. coli is a pathogen that is increasingly found in the community and ... von Elm E.; Altman DG ... Cited by 48 - Related articles - Lancashire Teaching Hospitals - Find@The Christie - All 6 versions

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... surgery), by catheter-related factors, (such as the condition under which the catheter was placed and catheter type), and ... For gram negative rods, antimicrobial resistance to third generation cephalosporins among Klebsiella pneumoniae and E. coli has increased significantly as ... Cited by 112 - Related articles - Lancashire Teaching Hospitals - Find@The Christie - Library Search - All 32 versions

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... Table 2. Univariate analysis of extended-spectrum β-lactamase (ESBL) positivity among uropathogenic Escherichia coli. ... Urinary catheter, 16 (3), 2 (13), 0.692. ... to at least two of trimethoprim–sulphamethoxazole, ciprofloxacin or gentamicin, was seen in 21.1% of E. coli ... Cited by 30 - Related articles - Find@The Christie - All 6 versions

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... In the present study, we describe the simultaneous blood infection with KPC-2 producing K. pneumoniae and Escherichia coli in a Brazilian patient. ... Catheter tip culture and two sets of blood cultures showed ertapenem-resistant E. coli and K. pneumoniae isolates. ... Cited by 4 - Related articles - Find@The Christie - All 2 versions
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EK Shuman... - Critical care medicine, 2010 - journals.lww.com

... This, in turn, can lead to catheter obstruction or formation of renal calculi ...

Enterobacteriaceae, or enteric Gram-negative bacilli, including Escherichia coli, Klebsiella spp., and Enterobacter spp ... Among the Enterobacteriaceae, E. coli is responsible for approximately 18% to 26% of ...

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CI Kang, JH Song, DR Chung, KR Peck... - International journal of ..., 2010 - Elsevier

... Among the Enterobacteriaceae, E. coli is responsible for approximately 18% to 26% of ...

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AY Peleg... - New England Journal of Medicine, 2010 - Mass Medical Soc

... cause bloodstream infection; however, the most common organisms include klebsiella species, Escherichia coli, enter- obacter ... and the most effective manage- ment is removal of the catheter rather than ... associated urinary tract infection.39 Recent US data indicate that E. coli is ...

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The epidemiology of urinary tract infection

B Foxman - Nature Reviews Urology, 2010 - nature.com

... although UTIs are primarily caused by E. coli, these E. coli are markedly different from commensal E. coli and are ... English-language articles using the following search terms: “urinary tract infection”, “cystitis”, “uropathogenic Escherichia coli”, and “catheter-associated urinary ...

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... Risk Factors and Mortality Following Community-onset Bacteremia Caused by Extended-spectrum β-lactamase (ESBL) and non-ESBL Producing Escherichia coli ...

CJ Hsieh, YH Shen... - Journal of Microbiology, Immunology and ..., 2010 - Elsevier

... However, studies comparing community-onset bacteremia caused by ESBL- and non-ESBL-producing Escherichia coli are limited. ... Prior antibiotic use within 30 days and urinary catheter placement were independently associated with ESBL-producing E. coli bacteremia. ...
Higher Incidence of Catheter-Related Bacteremia in Jugular Site with Tracheostomy than in Femoral Site

L Lorente, A Jiménez, C Naranjo, J Martínez… - Infection Control and …. 2010 - JSTOR
... faecalis, 2 cases; Pseudomonas aeruginosa, 1 case; Klebsiella species, 1 case; 
Escherichia coli, 5 cases ... The microorganisms responsible for the 10 cases of jugular venous catheter–related bacteremia with ... aureus, 2 cases; E. faecalis, 2 cases; P. aeruginosa, 2 cases; E. coli, 1 ...
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Recurrent gram-negative bloodstream infection: A 10-year population-based cohort study

MN Al-Hasan, JE Eckel-Passow... - Journal of Infection, 2010 - Elsevier
... Escherichia coli, 457 (54.0), 51 (52). ... the gastrointestinal tract (9%), skin and soft 
tissue infections (3%), the respiratory tract (2%), central venous catheter-related (1 ... 
Among the 98 recurrent episodes of gram-negative BSI, E. coli was the most common 
microorganism accounting for ...
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..., TG St Denis, D Anderson, E Sinofsky... - Photochemistry and ..., 2011 - Wiley Online 
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... Microorganisms studied included S. aureus, Enterococcus faecalis, E. coli, Klebsiella 
pneumoniae, and Streptococcus spp. It was also suggested by Eckhardt et al. (17) that the 
sterilization of catheter be achieved by delivering UVC light from outside the catheter. ...
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J Rodríguez-Baño, E Picón, P Gijón... - Journal of clinical ..., 2010 - Am Soc Microbiol
... obstructive disease of the urinary tract, the presence of a urinary catheter, the 
performance of ... analysis of risk factors for nosocomial bloodstream infection due 
for ESBL-producing Escherichia coli. Among the patients with nosocomial BSIs due to ESBL-producing E. coli, 27 (28 ...
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