Please find below the results of your literature search request.

If you would like the full text of any of the abstracts included, or would like a further search completed on this topic, please let us know.

We’d appreciate feedback on your satisfaction with this literature search. Please visit http://www.hello.nhs.uk/literature_search_feedback.asp and complete the form.

Thank you

**Literature search results**

<table>
<thead>
<tr>
<th>Search completed for:</th>
<th>14/02/2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search request date:</td>
<td>16/02/2011</td>
</tr>
<tr>
<td>Search completion date:</td>
<td>16/02/2011</td>
</tr>
<tr>
<td>Search completed by:</td>
<td>Lesley Firth</td>
</tr>
</tbody>
</table>

**Search details**

Acanthamoeba Keratitis - Patient - Prevalence - treatments - compare to other forms of keratitis. Compare to other types of treatment as well as hospital guideline for treatment.

**Resources searched**

NHS Evidence; Cochrane Library; EMBASE;

*Database search terms:*

*Google search string:* ("acanthamoeba keratitis" OR AK OR “amoebic keratitis” OR “microbial keratitis”) AND (prevalence OR symptom* OR treatment* OR diagnos* OR medic* OR infect* OR guid*)

**Summary**

**Guidelines**

**American Optometric Association**

Optometric Clinical Practice Guideline: Care of the Contact Lens Patient, 2006

3b (p. 44)

**Map of Medicine**

Painful red eye - keratitis, 2010

Microbial keratitis (Acanthamoeba) - aetiology:

Acanthamoebae are ubiquitous free-living protozoans:

- active form - trophozoite (easily destroyed)
- dormant form - cyst (highly resistant to disinfection, can survive for long periods in
Microbial keratitis (Acanthamoeba) - predisposing factors:
- contact lens wear is associated with more than 90% cases of Acanthamoeba keratitis:
  - majority are soft lenses
  - inadequate disinfection
  - use of non-sterile solutions
  - tap water rinse of storage case
  - contamination of storage case with bacteria and fungi (with or without biofilm) which provide substrate for Acanthamoebae
  - shower, pool or spa water (probably combined with epithelial discontinuity)
  - agricultural injuries

Nursing Reference Center
Acanthamoeba Keratitis, 2010
Helpsheet for nursing staff

Patient UK
Pathogenic Free-living Amoeba, 2010
Amoebic keratitis
- Description - amoebic keratitis (AK) is a progressive disease of the cornea, which is sight-threatening
- Causative organism - several Acanthamoeba spp. may cause AK.
- Commonly seen in - immunocompetent patients. However, infection does not confer immunity and reinfection is common.
- Risk factors - poor contact lens hygiene, corneal abrasion or exposure of the eye to contaminated water.
- Epidemiology - the incidence of AK is 3 per 100,000 and around 85% of cases occur in people who wear contact lenses. In a Scottish study the incidence amongst wearers of soft contact lenses was 14.9 per 100,000. An epidemic of AK occurred in the USA in the 1980s which was related to contaminated contact lenses and solutions.
- Presentation - secondary bacterial infection occurs commonly, making it difficult to diagnose.
  - Symptoms - watering of eyes, eye pain with photophobia, blurred vision and irritation are common.
  - Signs - include ptosis, conjunctival hyperemia, episcleritis, scleritis and loosening of the corneal epithelium. Stromal infiltrates can be seen with a bright light. Rarely, trophozoites can infiltrate the corneal nerve and retina, leading to chorioretinitis.
- Diagnosis - corneal scrape or biopsy.
- Differential diagnosis - herpes keratitis or fungal keratitis.
- Treatment - wide epithelial debridement if infection is detected early - but try to achieve medical resolution first. Therapy should include the cationic antiseptic agents, of which chlorhexidine or polyhexamethylene biguanide (PHMB) is the most effective. This is in combination with propamidine isethionate and neomycin as part of triple therapy. These may have to be used for prolonged periods, e.g. more than a year. Imidazoles have also been used but success rates are not great. In severe cases, enucleation may be necessary.
- Prevention - killing Acanthamoeba spp. from the contact lens. Tap water should not be used to rinse contact lenses. The British Contact Lens Association gives advice to those who wear contact lenses (see under Internet and further reading below).
Evidence-based reviews

Eye
Characteristics of and risk factors for contact lens-related microbial keratitis in a tertiary referral hospital, 2009
A retrospective case–control study was conducted at a tertiary referral hospital in Australia to determine the characteristics of and risk factors for contact lens (CL) related presumed microbial keratitis. 291 cases of presumed microbial keratitis were retrospectively identified over a 2-year period. Records were reviewed for a history of CL wear and, where identified, CL, demographic, and clinical data were collected. Lens-wearing controls (n = 186) were identified by a community telephone survey. Multiple logistic regression estimated risk factors for infection and vision loss. 99 (34%) new cases of presumed microbial keratitis were associated with CL wear. Concludes that overnight use of CL and youth carry a greater risk of infection. Practitioners should reinforce the importance of proper CL care at all times, and early presentation following the onset of symptoms.

Investigative Ophthalmology and Visual Science
Acanthamoeba keratitis: the role of domestic tap water contamination in the United Kingdom, 2004
The incidence of acanthamoeba keratitis (AK) in the UK is some 15 times that in the United States and 7 times that in Holland. To investigate reasons for this higher frequency, a study of the role of domestic tap water as a potential source of AK was undertaken. Tap outlets from the homes of 27 patients with culture-proven AK were sampled and cultured for free-living amoebae (FLA). For all Acanthamoeba isolates, mitochondrial DNA (mtDNA) restriction fragment length polymorphisms (RFLPs) and cytochrome oxidase (cox 1/2) sequence typing was performed to determine the similarity between corneal and tap water isolates. FLA, including Acanthamoeba, were isolated from 24 (89%) of 27 homes, and the presence within the homes varied significantly with tap water temperature and location: 19 (76%) of 25 bathroom sink cold taps sampled compared with 6 (24%) of 25 hot and 9 (47%) of 19 kitchen cold taps compared with 3 (16%) of 19 of hot kitchen taps. Acanthamoeba were isolated from 8 (30%) of 27 homes (five bathroom sink cold taps, one cloakroom cold tap, one bath, and one bedroom sink mixer (hot/cold) taps). In 6 cases, identical Acanthamoeba mtDNA profiles were found for the clinical and home tap water isolates. In keeping with UK plumbing practice, 24 of 27 homes had internal roof water storage tanks to supply domestic taps, but the mains fed the kitchen cold tap. Concludes that water storage tanks promote colonisation of domestic water with FLA, including Acanthamoeba, and hence increase the risk of AK. This accounts for the significantly greater incidence of AK in the UK and supports advice to avoid using tap water in contact lens care routines.

Published research

1. 2. Role of confocal microscopy in the diagnosis of fungal and acanthamoeba keratitis

Author(s): Vaddavalli P.K., Garg P., Sharma S., Sangwan V.S., Rao G.N., Thomas R.

Citation: Ophthalmology, January 2011, vol./is. 118/1(29-35), 0161-6420 (January 2011)

Publication Date: January 2011

Abstract: Purpose: To investigate the role of confocal microscopy as a diagnostic modality in microbial keratitis and to determine inter- and intraobserver variation in the analysis and interpretation of confocal microscopy findings. Design: Prospective, double masked, nonrandomized, observational clinical trial.
Participants: We included 146 consecutive patients with clinically suspected microbial keratitis. Methods: Confocal microscopy and microbiology evaluation of study participants. Main Outcome Measures: Sensitivity, specificity, and positive and negative predictive values of confocal microscopy in diagnosing fungal and Acanthamoeba keratitis compared with microbiologic evaluation, as well as the intra- and interobserver variation in interpretation of confocal scans. Results: We included 148 cases of infiltrative keratitis. Of the 103 microbiologically proven cases of Acanthamoeba or fungal keratitis, the confocal microscope was able to identify fungal filaments or Acanthamoeba cysts in 91 cases with either fungal or Acanthamoeba keratitis with a sensitivity of 88.3% (95% confidence interval [CI], 82.294.5) and a specificity of 91.1% (95% CI, 82.899.4). The interobserver agreement in interpreting the scans was good (kappa = 0.6; phi = 0.617). The intraobserver agreement was kappa = 0.795 and phi = 0.807. Conclusions: The confocal microscope seems to be an accurate and reliable diagnostic modality in the etiologic diagnosis of fungal and Acanthamoeba keratitis. Financial Disclosure(s): Proprietary or commercial disclosure may be found after the references. 2011 American Academy of Ophthalmology.

Source: EMBASE

Full Text:

Available in print at Lincoln County Hospital Professional Library

1. **5. Pathogenesis of Acanthamoeba keratitis**

   **Author(s):** Panjwani N.

   **Citation:** Ocular Surface, March 2010, vol./is. 8/2(70-79), 1542-0124 (Spring 2010)

   **Publication Date:** March 2010

   **Abstract:** Acanthamoeba keratitis (AK) is a serious infection of the cornea. At present, diagnosis of the disease is not straightforward and treatment is very demanding. While contact lens wear is the leading risk factor for AK, Acanthamoeba parasites are increasingly recognized as an important cause of keratitis in non-contact lens wearers. The first critical step in the pathogenesis of infection is the adhesion of the microbe to the surface of the host tissues. Acanthamoebae express a major virulence protein, the mannose-binding protein (MBP), which mediates the adhesion of amoebae to the surface of the cornea. The MBP is a transmembrane protein with characteristics of a typical cell surface receptor. Subsequent to the MBP-mediated adhesion to host cells, the amoebae produce a contact-dependent metalloproteinase and several contactindependent serine proteinases. These proteinases work in concert to produce a potent cytopathic effect (CPE) involving killing of the host cells, degradation of epithelial basement membrane and underlying stromal matrix, and penetration into the deeper layers of the cornea. In the hamster animal model, oral immunization with the recombinant MBP protects against AK, and this protection is associated with an increased level of anti-MBP IgA in tears of protected animals. Normal human tear fluid contains IgA antibodies against Acanthamoeba MBP that is likely to provide protection by inhibiting the adhesion of parasites to host cells. Indeed, in in vitro CPE assays, even a low concentration of tears (10 μL of undiluted tears per milliliter of media) almost completely inhibits Acanthamoebainduced CPE. In addition to adherence-inhibiting, IgA-mediated protection, human tears also contain IgA-independent factors that provide protection against Acanthamoeba-induced CPE by inhibiting the activity of cytotoxic proteinases. Characterization of the CPE-inhibitory factors of human tears should lead to a better understanding of the mechanism by which the tissues of the host resist the infection and also help decode circumstances that predispose to Acanthamoeba infections. 2010 Ethis Communications, Inc.

Source: EMBASE

1. **7. Bilateral acanthamoeba keratitis in synergeyes contact lens wear: Clinical...**
and confocal microscopy findings

**Author(s):** Barry Lee W., Gotay A.

**Citation:** Eye and Contact Lens, May 2010, vol./is. 36/3(164-169), 1542-2321 (May 2010)

**Publication Date:** May 2010

**Abstract:** Objective: To report three cases of bilateral Acanthamoeba keratitis in association with Synergeyes hybrid contact lens wear. Methods: Retrospective case series of six eyes of three patients that developed Acanthamoeba keratitis with Synergeyes hybrid contact lens wear. Results: Acanthamoeba keratitis was diagnosed in six eyes with a previous misdiagnosis of Herpes simplex keratitis in two patients and a misdiagnosis of corneal graft rejection in the third patient. Misdiagnosis in all three patients led to inappropriate topical corticosteroid use. All cases were diagnosed with Acanthamoeba castellanii by culture on nonnutrient agar, corneal scraping, and/or confocal microscopy. The infection ultimately cleared in all eyes with topical therapy using chlorhexidine, propamidine, and antibiotic ointment with neomycin. Cornea transplantation was required in two of six eyes for dense central corneal scarring. Conclusions: Acanthamoeba keratitis can occur in association with SynergEyes contact lens wear. Eye care professionals must take care to avoid potential misdiagnosis of Herpes simplex keratitis, avoid topical corticosteroids in contact lens wearers with an unknown keratitis, and pay special attention to the fellow eye for potential bilateral infection when Acanthamoeba has been diagnosed in one eye. Copyright Contact Lens Association of Ophthalmologists, Inc.

**Source:** EMBASE

1. **15. Concurrent acanthamoeba and fusarium keratitis with silicone hydrogel contact lens use**

**Author(s):** Lee W.B., Grossniklaus H.E., Edelhauser H.F.

**Citation:** Cornea, February 2010, vol./is. 29/2(210-213), 0277-3740 (February 2010)

**Publication Date:** February 2010

**Abstract:** Purpose: To report a case of simultaneous Acanthamoeba and Fusarium keratitis associated with no-rub multipurpose contact lens solution and silicone hydrogel contact lens use. Method: Observational case report. Results: A 39-year-old woman was referred for worsening of a presumed bacterial corneal ulcer in the setting of silicone hydrogel lens wear with occasional overnight wear, no-rub multipurpose contact lens solution use, and combined topical antibiotic/corticosteroid treatment. Initial corneal scrapings and culture confirmed Acanthamoeba and Fusarium solani, corroborated by in vivo confocal microscopy findings, yet despite topical chlorhexidine 0.02%, propamidine 1%, neomycin/polymyxin B ointment, and natamycin 5% along with oral itraconazole, the ulcer worsened. Four days after amoebic and fungal therapy initiation, it was discovered that the pharmacy accidentally dispensed neomycin/polymyxin B/dexamethasone, and despite immediate discontinuation, therapeutic penetrating keratoplasty from corneal melting was ultimately required. Corneal histopathology confirmed the presence of amoebic cysts and fungal elements. Conclusions: Coexisting infection with Acanthamoeba and Fusarium species can occur in contact lens wear. Atypical infection must be considered in patients with corneal ulcers demonstrating poor therapeutic response in the setting of contact lens wear. Corticosteroids should be used with extreme caution in contact lens-related corneal infections, especially when the diagnosis remains unknown because they can lead to acceleration of active infection and keratolysis. 2010 by Lippincott Williams & Wilkins.

**Source:** EMBASE
2. 16. Two cases of acanthamoeba keratitis diagnosed only by real-time polymerase chain reaction

Author(s): Kandori M., Inoue T., Takamatsu F., Kojima Y., Hori Y., Maeda N., Tano Y.

Citation: Cornea, February 2010, vol./is. 29/2(228-231), 0277-3740 (February 2010)

Publication Date: February 2010

Abstract: Purpose: To report 2 cases of Acanthamoeba keratitis whose causative pathogen was detected only by real-time polymerase chain reaction (PCR).

Methods: Histological examinations of corneal scrapings were stained with Fungiflora Y. Corneal scrapings were also cultured on nonnutrient agar. Real-time PCR analyses of corneal scrapings were also performed. Results: Both cases had clinical signs and risk factors of Acanthamoeba infection. Histological examinations of corneal scrapings with Fungiflora Y staining were negative, and the cultures did not grow any pathogens. Real-time PCR analysis was positive for Acanthamoeba DNA from 2 corneal scrapings. Antiamoebic treatments led to excellent clinical improvements. Conclusions: These results indicate that PCR analyses can detect the DNA of Acanthamoeba in corneal scrapings and may be a valuable supplemental examination. This method is especially helpful when clinical signs and risk factors of Acanthamoeba infection are present but histological examinations with Fungiflora Y staining and cultures are negative. 2010 by Lippincott Williams & Wilkins.

Source: EMBASE

1. 22. Treatment With Voriconazole in 3 Eyes With Resistant Acanthamoeba Keratitis

Author(s): Bang S., Edell E., Eghrari A.O., Gottsch J.D.

Citation: American Journal of Ophthalmology, January 2010, vol./is. 149/1(66-69), 0002-9394 (January 2010)

Publication Date: January 2010

Abstract: Purpose: To report the use of topical voriconazole 1% (Vfend; Pfizer Inc, New York, New York, USA) ophthalmic solution for Acanthamoeba keratitis (AK) resistant to treatment with chlorhexidine (PerioChip; Dexel Pharma Technologies, Jerusalem, Israel). Design: Retrospective case series. Methods: Three eyes of 2 patients with culture-proven AK were treated at a tertiary care institution, and their charts were reviewed. Topical voriconazole 1% was instituted as second-line treatment for AK unresponsive to standard treatment with chlorhexidine and hexamidine. Treatment with voriconazole 1% was started at 1-hour intervals. Improvement was assessed and defined by absence of clinical signs of active infection and visual improvement. Results: One patient with unilateral AK and 1 patient with bilateral AK who remained culture-positive for Acanthamoeba despite ongoing treatment with chlorhexidine and hexamidine were treated with voriconazole 1% topical solution as an adjuvant. Both patients were contact lens wearers. Of 3 eyes additionally treated with voriconazole, 2 eyes had clinical resolution of disease. One eye demonstrated recurrent disease after penetrating keratoplasty that resolved after intrastromal injection of voriconazole. Conclusions: We report the use of topical and intrastromal voriconazole in successfully treating AK in cases of chlorhexidine- and hexamidine-resistant Acanthamoeba. Voriconazole may be a promising adjuvant agent in treating AK. 2010 Elsevier Inc. All rights reserved.

Source: EMBASE

1. 28. In vivo and in vitro laser confocal microscopy to diagnose acanthamoeba
keratitis

Author(s): Shiraishi A., Uno T., Oka N., Hara Y., Yamaguchi M., Ohashi Y.

Citation: Cornea, August 2010, vol./is. 29/8(861-865), 0277-3740 (August 2010)

Publication Date: August 2010

Abstract: Purpose: To determine the effectiveness of laser confocal microscopy in identifying Acanthamoeba cysts and trophozoites in the cornea of patients with Acanthamoeba keratitis (AK) and to evaluate its effectiveness in following AK after treatment. Methods: The corneas of 9 patients clinically diagnosed with AK were monitored periodically with the Heidelberg Retina Tomograph II-Rostock Cornea Module (HRT II-RCM) to examine for Acanthamoeba cysts and trophozoites during the clinical course. Results: Seven of 9 patients had positive corneal smears, and 5 of 9 patients had positive laboratory cultures. HRT II-RCM demonstrated the presence of highly reflective polygonal shadows with lower reflective borders in the cornea of all patients. In 1 patient, a highly reflective pleomorphic shadow with small less-reflective areas was detected inside the cell. The former finding resembled the image of Acanthamoeba cysts in culture as observed by HRT II-RCM, and the latter observation with that of Acanthamoeba trophozoites in culture. After treatment, the number of highly reflective inflammatory cells decreased and the number and morphology of the corneal epithelial cells with highly reflective nuclei recovered to normal levels. Conclusion: These results indicate that in vivo laser confocal microscopy can be a useful method to make a diagnosis and to follow patients with AK. 2010 by Lippincott Williams and Wilkins.

Source: EMBASE

1. 33. Penetrating keratoplasty in active acanthamoeba keratitis

Author(s): Nguyen T.H., Weisenthal R.W., Florakis G.J., Reidy J.J., Gaster R.N., Tom D.

Citation: Cornea, September 2010, vol./is. 29/9(1000-1004), 0277-3740 (September 2010)

Publication Date: September 2010

Abstract: Purpose: To report the results of penetrating keratoplasty (PK) in active Acanthamoeba keratitis (AK). Methods: Nine patients with deep stromal infiltrates because of AK were treated with intensive antiamoebic medical therapy followed by PK during the acute infectious phase because of poor clinical response or poor compliance. Antiamoebic therapy was tapered after PK. Results: Visual acuity ranged from 20/15 to 20/50 after an average of 17 months after PK with no signs of recurrences. Patients had rapid resolution of symptoms. Conclusion: PK is a viable option for active AK not responding to maximum medical treatment. 2010 by Lippincott Williams & Wilkins.

Source: EMBASE

2. 34. The clinical experience of acanthamoeba keratitis at a tertiary care eye hospital

Author(s): Tanhehco T., Colby K.

Citation: Cornea, September 2010, vol./is. 29/9(1005-1010), 0277-3740 (September 2010)

Publication Date: September 2010

Abstract: Purpose: In recent years, outbreaks of Acanthamoeba keratitis (AK) have been reported worldwide. The purpose of this study was to examine the clinical experience of AK at the Massachusetts Eye and Ear Infirmary. Methods: A retrospective case review was completed on patients with infectious keratitis whose
corneal cultures were positive for Acanthamoeba between January 2000 and December 2008. The clinical characteristics and visual outcomes were examined in those patients with a follow-up period greater than 6 months. Results: Four cases were identified between January 2000 and December 2003, whereas 26 cases were identified between January 2004 and December 2008. Charts before 2004 were unavailable for review. A total of 15 cases between 2004 and 2008 had a follow-up period of greater than 6 months. In these cases, possible risk factors associated with AK included soft contact lens wear (12 of 15 cases), exposure to freshwater or saltwater sources (8 of 15 cases), chronic ocular surface disease (6 of 15 cases), ocular trauma (3 of 15 cases), and concomitant infectious keratitis (2 of 15 cases). Four cases were associated with the use of Advanced Medical Optics Complete MoisturePlus Multi-Purpose Solution. Many cases were recalcitrant to medical therapy alone, necessitating therapeutic penetrating keratoplasty in 8 of 15 cases. Conclusions: The number of AK cases at the Massachusetts Eye and Ear Infirmary has increased since 2004. Contact lens wear and exposure to contaminated water sources were potential risk factors for AK. Clinicians should maintain a high clinical suspicion for AK in cases of atypical keratitis with known risk factors for AK. 2010 by Lippincott Williams & Wilkins.

Source: EMBASE

3. 35. Clinical experience with acanthamoeba keratitis at the cole eye institute, 1999-2008

Author(s): Qian Y., Meisler D.M., Langston R.H.S., Jeng B.H.

Citation: Cornea, September 2010, vol./is. 29/9(1016-1021), 0277-3740
(September 2010)

Publication Date: September 2010

Abstract: Purpose: To review the clinical presentations, risk factors, medical and surgical management, and outcomes of patients with Acanthamoeba keratitis (AK). Methods: Retrospective review of laboratory and medical records of all patients suspected of having AK from January 1999 through May 2008 at Cole Eye Institute. Results: Twenty-nine eyes of 26 patients were identified as having either culture- or tissue-proven AK or presumed AK based on clinical examination and complete response to full course of treatment. The most common risk factors identified for AK were history of contact lens wear (89.7%) and exposure to contaminated water (27.6%). Clinical presentations included early AK (superficial disease) in 37.9% of eyes or late AK (deep stromal disease with or without epithelial disease) in 62.1% of eyes. All early AK cases had best-corrected visual acuity of 20/30 or better at last follow-up, whereas only 55.6% of late AK cases achieved 20/30 or better. Eight eyes underwent penetrating keratoplasty. One patient demonstrated viable-appearing cysts in the corneal button, despite 15 months of maximum medical treatment and 5 months off all medical treatments. Over the nearly 10-year period, there was no significant increase in the number of cases seen each year. Conclusions: The most common risk factor for AK continues to be contact lens wear. AK requires prolonged and intense treatment, although good final visual acuity can be achieved. Potentially viable Acanthamoeba cysts can still persist in a noninflamed cornea after extensive medical therapy, supporting the practice that corneal transplantation after presumably resolved cases of AK should be followed with vigilance to detect the earliest signs of recurrent disease. 2010 by Lippincott Williams & Wilkins.

Source: EMBASE

1. 41. Four cases of acanthamoeba keratitis treated with phototherapeutic keratectomy

Author(s): Kandori M., Inoue T., Shimabukuro M., Hayashi H., Hori Y., Maeda N., Tano Y.

Citation: Cornea, October 2010, vol./is. 29/10(1199-1202), 0277-3740 (October
Abstract: Purpose: To report 4 cases of Acanthamoeba keratitis treated with excimer laser phototherapeutic keratectomy (PTK) and to discuss the clinical efficacy of this procedure. Methods: Four cases with early stage Acanthamoeba keratitis resistant to medical amoebic therapy for at least 1 week and with an enlarged abscess underwent PTK. Results: After PTK, the infected corneal lesions were removed and the clinical symptoms rapidly resolved in all cases. Another 40-mum ablation was required as a result of the 1-week delay in performing PTK. There was no recurrence during the postoperative period. CONCLUSION: When lesions are limited to about one third of the superficial corneal stromal layer, PTK could be the most beneficial option for treating Acanthamoeba keratitis, resistant to medical amoebic therapy using chlorhexidine or polyhexamethylene biguanide, because of direct removal of resistant amoebic cysts and better visual recovery without irregular astigmatism. Copyright 2010 by Lippincott Williams & Wilkins.

Source: EMBASE

1. 58. A retrospective study of nine cases of Acanthamoeba keratitis

Author(s): Mutoh T., Ishikawa I., Matsumoto Y., Chikuda M.

Citation: Clinical Ophthalmology, 2010, vol./is. 4/1(1189-1192), 1177-5467;1177-5483 (2010)

Publication Date: 2010

Abstract: Purpose: To evaluate the clinical features of Acanthamoeba keratitis in nine patients diagnosed at Dokkyo Medical University Koshigaya Hospital, Saitama, Japan. Methods: In nine eyes of nine patients, Acanthamoeba keratitis was diagnosed by direct light microscopy of corneal scrapings stained by the Parker ink-potassium hydroxide method between September 2006 and September 2009. Their clinical features and course were studied retrospectively. Antifungal eye drops, systemic antifungal therapy, and surgical debridement of the corneal lesions were performed in all patients. Results: At presentation, the clinical stage was initial in six cases, transient in one case, and complete in two cases. The patients were all contact lens wearers who had washed their lens storage cases with tap water. After treatment, final visual acuity was improved in six cases, unchanged in one case, and worse in two cases. The patient with the worst final vision (hand motion) had rheumatoid arthritis and was taking oral prednisolone, which led to corneal perforation and prevented adequate debridement from being done. Conclusion: Acanthamoeba keratitis is closely related to wearing contact lenses and washing the lens storage case with tap water. Although final visual acuity improved after treatment in most patients, insufficient surgical debridement resulted in a poor visual prognosis. 2010 Mutoh et al.

Source: EMBASE

Full Text:
Available in fulltext at National Library of Medicine

1. 64. Rapid diagnosis of Acanthamoeba keratitis

Author(s): Dua H.S., Aralikatti A., Said D.G.

Citation: British Journal of Ophthalmology, December 2009, vol./is. 93/12(1555-1556), 0007-1161;1468-2079 (December 2009)

Publication Date: December 2009

Source: EMBASE
1. **Temporal and seasonal trends in Acanthamoeba keratitis**

**Author(s):** McAllum P., Bahar I., Kaiserman I., Srinivasan S., Slomovic A., Rootman D.

**Citation:** Cornea, January 2009, vol./is. 28/1(7-10), 1536-4798 (Jan 2009)

**Publication Date:** January 2009

**Abstract:** PURPOSE: The purpose of this study was to assess the incidence and risk factors of Acanthamoeba keratitis (AK) over an 8-year period in a Canadian tertiary care setting. METHODS: We retrospectively reviewed the medical records of 41 patients (42 eyes), who were diagnosed as having AK between January 1999 and December 2006 in the cornea clinic at the Toronto Western Hospital. The incidence and risk factors of AK were evaluated. RESULTS: The number of cases per year increased from between 0 and 4 in the first 5 years to 9, 14, and 8 in the last 3 years. The annual increasing trend was statistically significant (P = 0.04). The month of onset of disease symptoms showed a trend toward onset in summer and fall and was statistically significant for the difference between January and August (P = 0.0094). The season of onset of disease symptoms showed a trend toward summer onset, and the difference between winter and summer was statistically significant (P = 0.02). 92.9% of cases occurred in contact lens wearers, particularly in soft contact lens wearers (82.1%). CONCLUSIONS: The incidence of AK in Canada may be increasing since 2004. There is a seasonal trend toward disease onset in the warmer months.

**Source:** EMBASE

2. **Contact lens-related acanthamoeba keratitis**

**Author(s):** Stapleton F., Ozkan J., Jalbert I., Holden B.A., Petsoglou C., McClellan K.

**Citation:** Optometry and Vision Science, October 2009, vol./is. 86/10(E1196-E1201), 1040-5488 (October 2009)

**Publication Date:** October 2009

**Abstract:** Acanthamoeba keratitis is a rare but severe disease, with more than 95% of cases occurring in contact lens wearers. With a worldwide resurgence of contact lens-related disease, this report illustrates the clinical characteristics and treatment challenges representative of this disease. This report describes Acanthamoeba keratitis in a 47-year-old female using extended wear silicone hydrogel contact lenses, with a history of swimming in a home pool and failure to subsequently disinfect the contact lenses. The diagnosis was based on clinical signs, disease course, and confocal microscopy results despite a negative result for corneal smear and culture. The corneal signs included an epithelial defect, epithelial irregularities, anterior stromal infiltrates, perineural infiltrates, an anterior stromal ring infiltrate, and hypopyon. The case was diagnosed as an infective keratitis and treated promptly using intensive topical administration of fortified gentamicin and cephalothin. The high likelihood Acanthamoeba prompted immediate use of polyhexamethylenebiguanide and chlorhexidine, with propamide and adjunct treatment using atropine and oral diclofenac. Steroids were added on day 3, and the frequency of administration of antibacterial treatment was gradually reduced and ceased by day 10. The analgesia was stopped at 3 months. The frequency of administration of antiamoeba therapy and steroid treatment was slowly reduced and all treatment was ceased after 18 months. Despite considerable morbidity in terms of the treatment duration, hospitalization, outpatient...
appointments, and associated disease costs, the final visual outcome (6/6) was excellent. 2009 American Academy of Optometry.

**Source:** EMBASE

1. **71. Three cases of Acanthamoeba keratitis diagnosed and treated in the early stage**

   **Author(s):** Ueki N., Eguchi H., Oogi Y., Shiota H., Yamane S., Umazume H., Mizui K.

   **Citation:** Journal of Medical Investigation, 2009, vol./is. 56/3-4(166-169), 1343-1420 (2009)

   **Publication Date:** 2009

   **Abstract:** Acanthamoeba keratitis (AK) is a severe infectious corneal ulcer that usually occurs in contact lens wearers. Although the number of AK cases in Japan has been increasing, many of these cases are diagnosed in the early stage and are treated adequately. This is probably because of the increased availability of various diagnostic techniques and the ever-increasing knowledge about AK among ophthalmologists. In this article, we described 3 cases of AK that were diagnosed and treated in the early stages of the disease, and we discuss why 1 of the cases had a less favorable prognosis than the other 2 cases, which had excellent prognoses, from an etiological point of view.

   **Source:** EMBASE

2. **72. Keratoplasty for treatment of acanthamoeba keratitis**

   **Author(s):** Cohen E.J.

   **Citation:** Evidence-Based Ophthalmology, October 2009, vol./is. 10/4(218-219), 1555-9203;1555-9211 (October 2009)

   **Publication Date:** October 2009

   **Source:** EMBASE

   **Full Text:**
   Available in fulltext at Ovid

1. **74. Acanthamoeba Keratitis: Diagnosis and Treatment Update 2009**

   **Author(s):** Dart J.K.G., Saw V.P.J., Kilvington S.

   **Citation:** American Journal of Ophthalmology, October 2009, vol./is. 148/4(487-499.e2), 0002-9394 (October 2009)

   **Publication Date:** October 2009

   **Abstract:** Purpose: To describe the current management of Acanthamoeba keratitis (AK). Design: A perspective based on the literature and author experience. Results: Early diagnosis and appropriate therapy are key to a good prognosis. A provisional diagnosis of AK can be made using the clinical features and confocal microscopy, although a definitive diagnosis requires culture, histology, or identification of Acanthamoeba deoxyribonucleic acid by polymerase chain reaction. Routine use of tissue diagnosis is recommended, particularly for patients unresponsive to treatment for AK. Topical biguanides are the only effective therapy for the resistant encysted form of the organism in vitro, if not always in vivo. None of the other drugs that have been used meet the requirements of consistent cysticidal activity and may have no therapeutic role. The use of topical steroids is controversial, but probably beneficial, for the management of severe corneal inflammatory complications that have not responded to topical biguanides alone.
The scleritis associated with AK is rarely associated with extracorneal invasion and usually responds to systemic anti-inflammatory treatment combined with topical biguanides. Therapeutic keratoplasty retains a role for therapy of some severe complications of AK but not for initial treatment. With modern management, 90% of patients can expect to retain visual acuity of 6/12 or better and fewer than 2% become blind, although treatment may take 6 months or more. Conclusions: Better understanding of the pathogenesis of the extracorneal complications, the availability of polymerase chain reaction for tissue diagnosis, and effective licensed topical anti-amoebics would substantially benefit patients with AK. 2009 Elsevier Inc. All rights reserved.

Source: EMBASE

2. 75. Perioperative treatment and prognostic factors for penetrating keratoplasty in Acanthamoeba keratitis unresponsive to medical treatment

Author(s): Shi W., Liu M., Gao H., Li S., Xie L.

Citation: Graefe’s Archive for Clinical and Experimental Ophthalmology, 2009, vol./is. 247/10(1383-1388), 0721-832X (2009)

Publication Date: 2009

Abstract: Background: The purpose of this research is to evaluate the prognostic factors for graft survival after penetrating keratoplasty (PK) for medically unresponsive Acanthamoeba keratitis. Methods: In this retrospective, interventional case series, 22 affected eyes underwent therapeutic penetrating keratoplasty for medically unresponsive Acanthamoeba keratitis at Shandong Eye Institute during a 10-year period (1996-2006). Diagnosis of Acanthamoeba keratitis was made prior to surgery for 15 eyes, while a delayed diagnosis was made for the other seven eyes. Appropriate anti-microbial agents were administered based on the suspected etiological agents. Intravenous hydrocortisone was given only once in two patients. Systemic and topical use of steroids was avoided within 2 to 3 weeks after operation. The six patients who were misdiagnosed had intravenous hydrocortisone for 3 days postoperatively, and routine administration of systemic and topical steroids until Acanthamoeba was detected. Patients were followed up for 6 to 24 months (mean, 10 months) after PK. Results: Of these patients, none wore contact lenses. The possible causes for infection included trauma with plant matter or dust (13 cases), poultry-feeding (six cases), and occupational exposure to oil (one case). Eighteen grafts were clear at the end of the follow-up. Six eyes (28%) had amoebic recurrence at 2 to 3 weeks after PK, of which five were misdiagnosed prior to surgery and received postoperative corticosteroids treatment. Four of the six eyes that developed a recurrence were regrafted, while the other two remained clear for the ensuing follow-up period. Conclusions: PK may be performed in eyes with active Acanthamoeba keratitis. To improve the prognosis, surgeons should pay attention to antiamebal therapy and avoid prescribing corticosteroids in the early postoperative period. Springer-Verlag 2009.

Source: EMBASE

1. 79. Keratoplasty for Treatment of Acanthamoeba Keratitis

Author(s): Kitzmann A.S., Goins K.M., Sutphin J.E., Wagoner M.D.

Citation: Ophthalmology, May 2009, vol./is. 116/5(864-869), 0161-6420 (May 2009)

Publication Date: May 2009

Abstract: Purpose: To evaluate and compare the outcomes of therapeutic keratoplasty (TKP) and optical keratoplasty (OKP) in the management of medically unresponsive Acanthamoeba keratitis and post-keratitis scarring, respectively. Design: Retrospective, nonrandomized, comparative, interventional case series. Participants: Thirty patients with Acanthamoeba keratitis treated at a single center.
Methods: Retrospective review of all cases of penetrating keratoplasty (PKP) or lamellar keratoplasty (LKP) performed for Acanthamoeba keratitis at a single center between January 1, 1980, and December 31, 2007. Inclusion criteria included histopathologic confirmation of Acanthamoeba organisms in the surgical specimen and at least 6 months of postoperative follow-up. Main Outcome Measures: Postoperative complications, microbiological cure, graft survival, and visual acuity. Results: Thirty-one eyes of 30 patients met the inclusion criteria. This included 22 eyes (22 patients) that were initially treated with TKP (20 PKP/2 LKP) and 9 eyes (8 patients) treated with OKP (8 OKP/1 LKP). Of the 22 eyes treated with TKP, multiple keratoplasties (range, 2-6) were performed in 12 eyes (55%), whereas repeat keratoplasty was performed in only 1 eye (11%) treated with OKP (P = 0.004). Recurrent Acanthamoeba keratitis, glaucoma, early and late persistent epithelial defects, and endophthalmitis were more likely to occur after TKP than after OKP. A microbiological cure was achieved in all surgical cases. Among eyes treated with TKP, this required 1 keratoplasty in 14 eyes, 2 keratoplasties in 6 eyes, and 3 keratoplasties in 2 eyes. After the initial keratoplasty, Kaplan-Meier survivals after TKP were 45.5%, 45.5%, and 37.5% at 1 year, 5 years, and 10 years, respectively, compared with 100%, 100%, and 66.7%, respectively, after OKP (P = 0.004). The median visual acuity was 20/40 after TKP and 20/25 after OKP. Eyes treated with TKP were less likely to obtain visual acuity of 20/40 or better and more likely to have vision of 20/200 or worse. Conclusions: Therapeutic keratoplasty can successfully treat medically unresponsive cases of Acanthamoeba keratitis, although multiple grafts may be required and the visual prognosis is guarded. Optical keratoplasty performed after resolution of active keratitis is associated with an excellent prognosis for both graft survival and visual outcome. Financial Disclosure(s): The author(s) have no proprietary or commercial interest in any materials discussed in this article. 2009 American Academy of Ophthalmology.

Source: EMBASE

Full Text:

Available in print at Lincoln County Hospital Professional Library

80. Acanthamoeba keratitis: A comprehensive photographic reference of common and uncommon signs

Author(s): Patel D.V., McGhee C.N.J.

Citation: Clinical and Experimental Ophthalmology, 2009, vol./is. 37/2(232-238), 1442-6404;1442-9071 (2009)

Publication Date: 2009

Abstract: There has been a significant increase in the number of reported cases of Acanthamoeba keratitis reported internationally over the last 24 months. Diagnosing Acanthamoeba keratitis is often difficult and part of the difficulty is attributed to the variability of presentation. This article provides a comprehensive photographic reference of common and uncommon clinical signs of Acanthamoeba keratitis.

Journal compilation 2009 Royal Australian and New Zealand College of Ophthalmologists.

Source: EMBASE

Full Text:

Available in fulltext at EBSCO Host

1. 81. Comparison of a PCR-based method with culture and direct examination for diagnosis of Acanthamoeba keratitis

Author(s): Niyati M., Lorenzo-Morales J., Mohebali M., Rezaie S., Rahimi F., Babaei Z., Martin-Navarro C.M., Farnia S., Valladares B., Rezaeian M.
Abstract: Background: The aim was to compare three different methods (direct examination, culture and PCR methods) for the diagnosis of Acanthamoeba keratitis (AK) in corneal scrapes. Methods: Twenty eight corneal scrapes and contact lenses were collected from keratitis patients and referred to the Department of Medical Parasitology and Mycology, School of Public Health, Tehran University of Medical Sciences. Corneal scrapes were divided in three parts for direct examination, culture on non-nutrient agar and PCR analysis. PCR analysis was also performed using a 18S rRNA gene primer pair (DF3 region). DF3 (Diagnostic fragment 3) is a region of the nuclear small subunit ribosomal RNA gene which is specific for detecting Acanthamoeba strains. Results: Acanthamoeba was the causative agent of keratitis in 50% of the patients. Direct smear of all prepared corneal scrapes in AK patients was negative and culture was positive in only 14.3% of the isolates. PCR analysis was positive in 71.4% of AK patients. These three methods were negative in corneal scrapes of non-AK patients. The sensitivity and specificity of PCR technique for the detection of Acanthamoeba sp. were calculated as 71.4% and 100%, respectively. Conclusion: According to high sensitivity and specificity of PCR-based method, this study confirmed that PCR using 18S rRNA gene primers (DF3 region) is more useful for detecting AK cases compare to culture and direct microscopy methods.

Source: EMBASE

1. 86. Twenty years of acanthamoeba keratitis

Author(s): Carvalho F.R.S., Foronda A.S., Mannis M.J., Hofling-Lima A.L., Belfort R., Freitas D.D.

Citation: Cornea, June 2009, vol./is. 28/5(516-519), 0277-3740 (June 2009)

Publication Date: June 2009

Abstract: PURPOSE: We described the rate of Acanthamoeba keratitis (AK) in a referral eye center in Sao Paulo, Brazil, through a retrospective review of clinical and laboratorial records of patients over 2 decades. METHODS: From 1987 to 2006, a total of 581 requests for amoebic laboratory workup in cases of infectious keratitis were investigated. Statistical analyses were applied to analyze a tendency of AK cases. RESULTS: Acanthamoeba species were cultured from corneal scrapings of 185 patients, 5 of them with bilateral infection. Eighty-three percent of those patients were related with contact lens wear. CONCLUSIONS: The results suggested that patients with AK have persisted and increased over time at our ophthalmology center. Contact lenses showed to be a potential risk factor. Amoebic corneal infection can be considered as a new but well-established disease in Brazilian ophthalmology and visual sciences. 2009 by Lippincott Williams & Wilkins.

Source: EMBASE

2. 87. Genotypic identification of acanthamoeba sp. isolates associated with an outbreak of acanthamoeba keratitis

Author(s): Booton G.C., Joslin C.E., Shoff M., Tu E.Y., Kelly D.J., Fuerst P.A.

Citation: Cornea, July 2009, vol./is. 28/6(673-676), 0277-3740 (July 2009)

Publication Date: July 2009

Abstract: PURPOSE: To determine whether increased rates of Acanthamoeba keratitis (AK) are due to changes in municipal water treatment or to emergence of a more pathogenic strain of Acanthamoeba. METHODS: Previous sequence analysis
of the 18S ribosomal DNA of Acanthamoeba isolates resulted in the identification of 15 different genotypic classes. These analyses indicate that AK cases are associated predominantly (~97%) with a single genotype (designated T4) of Acanthamoeba and rarely with other genotypes (eg, T3 and T11). In this study, we test the hypothesis that a new or more pathogenic genotype of Acanthamoeba is the cause of the recent surge in AK. RESULTS: We determined the genotype of 15 Acanthamoeba sp. isolates from AK cases associated with this outbreak using sequence analysis of a region of the 18S ribosomal DNA. Our results indicate that these isolates are predominantly genotype T4 (87%), with the remaining isolates being genotype T3 (13%). Both genotypes have previously been observed in AK cases. CONCLUSIONS: There is no support for the hypothesis that the current AK outbreak is associated with infection by a new more pathogenic Acanthamoeba genotype. In addition, these results offer support for the hypothesis that the increased AK incidence may be because of changes in water treatment protocols leading to increased bacterial colonization of the water supply and subsequent increases of already present Acanthamoeba sp, ultimately culminating in an increase of AK cases. 2009 by Lippincott Williams & Wilkins.

Source: EMBASE

3. 88. An atypical presentation of acanthamoeba keratitis in a patient with keratoconus treated briefly with topical anesthetic

Author(s): Wolf E.J., Wolf K.J., Kleiman L.Z.

Citation: Eye and Contact Lens, January 2009, vol./is. 35/1(38-40), 1542-2321 (January 2009)

Publication Date: January 2009

Abstract: OBJECTIVES: To present a case of biopsy proven acanthamoeba keratitis requiring penetrating keratoplasty in a patient with keratoconus whose clinical course was remarkable for its lack of ocular injection and pain. The absence of these key findings may have contributed to a delay in diagnosis and a delay in instituting antiamoebic therapy. METHODS: Case report. RESULTS: A 21-year-old woman who wore soft contact lenses for management of keratoconus presented with a painful suppurative corneal infiltrate and epithelial defect. The patient was initially seen in an emergency department where she was given a bottle of topical anesthetic drops (proparacaine) to use for pain. When she was seen by the authors 18 hr after presenting to the emergency department, the proparacaine was immediately discontinued, and she was treated with fortified antibiotic (vancomycin and tobramycin) eye drops and oral antiviral medications (famciclovir). Despite an initial improvement and complete resolution of ocular discomfort, the patient went on to develop a dense, peripheral stromal infiltrate that failed to improve despite intensive treatment. Confocal microscopy and corneal biopsy were definitive for acanthamoeba infection. The patient subsequently failed medical therapy and underwent large diameter penetrating keratoplasty. The patient has shown no evidence of acanthamoeba recurrence in the corneal graft. CONCLUSIONS: Keratoconic patients may have atypical presentations of acanthamoeba keratitis, which may delay diagnosis and institution of medical therapy. Even brief use of topical anesthetics may further complicate the clinical picture. 2009 Lippincott Williams & Wilkins, Inc.

Source: EMBASE

1. 95. Successful treatment of acanthamoeba keratitis without anti-amoebic agents

Author(s): Agahan A.L., Lim R.B., Valenton M.J.

Citation: Annals of the Academy of Medicine Singapore, February 2009, vol./is. 38/2(175-176), 0304-4602 (February 2009)
1. **Acanthamoeba keratitis with perforation after corneal crosslinking and bandage contact lens use**

**Author(s):** Rama P., Di Matteo F., Matuska S., Paganoni G., Spinelli A.

**Citation:** Journal of Cataract and Refractive Surgery, April 2009, vol./is. 35/4(788-791), 0886-3350 (April 2009)

**Abstract:** A 32-year-old man with keratoconus developed corneal melting 5 days after riboflavin/ultraviolet-A corneal collagen crosslinking (CXL). Corneal scraping was positive for Acanthamoeba. The patient was unaware that he was wearing a bandage contact lens and repeatedly rinsed his face and eyelids with tap water. Because of corneal perforation, a large therapeutic keratoplasty a chaud was performed. Although CXL is considered a safe procedure, this case emphasizes the potential risks. We discuss the potential effects of deepithelialization, contact lens placement, instillation of topical nonsteroidal antiinflammatory drugs and anesthetic agents, and the possible role of apoptosis when performing CXL treatment for keratoconus. 2009 ASCRS and ESCRS.

**Source:** EMBASE

---

1. **The relative value of confocal microscopy and superficial corneal scrapings in the diagnosis of Acanthamoeba keratitis**

**Author(s):** Tu E.Y., Joslin C.E., Sugar J., Booton G.C., Shoff M.E., Fuerst P.A.

**Citation:** Cornea, August 2008, vol./is. 27/7(764-772), 1536-4798 (Aug 2008)

**Abstract:** PURPOSE: To compare the relative diagnostic value of confocal microscopy and superficial corneal cultures in the diagnosis of Acanthamoeba keratitis by using clinical and microbiologic definitions of disease. METHODS: Results of confocal microscopy, superficial corneal smear, and superficial corneal culture were analyzed for validity against 2 different microbiologic and a clinical composite standard for Acanthamoeba keratitis. RESULTS: In patients with both clinical characteristics and objective evidence of Acanthamoeba keratitis, confocal microscopy exhibited a sensitivity of 90.6% (95% confidence interval [CI]: 79.3%-96.9%) and a specificity of 100% (95% CI: 95.0%-100%). In patients with either positive culture or smear evidence of Acanthamoeba keratitis, confocal microscopy showed a sensitivity of 90.9% (95% CI: 78.3%-97.5%) and specificity of 90.1% (95% CI: 81.5%-95.6%). In strictly culture-positive patients, confocal microscopy showed a sensitivity of 92.9% (95% CI: 76.5%-99.1%) and a specificity of 77.3% (95% CI: 67.7%-85.2%). Of the 53 patients with Acanthamoeba keratitis, confocal microscopy was positive in 48 patients, whereas corneal smears and cultures were positive in 30 of 41 and 23 of 42 patients, respectively. Sensitivity of Acanthamoeba culture was 52.8% (95% CI: 38.6%-66.7%) in patients with a clinical diagnosis of Acanthamoeba keratitis. Simultaneous testing of smear and superficial corneal scraping resulted in a sensitivity of 83.0% (95% CI: 70.2%-91.9%), independent of the results of confocal microscopy. CONCLUSIONS: As confocal microscopy comes into wide clinical use, it remains in need of clinical and pathologic correlation. When performed and interpreted by an experienced operator, confocal microscopy is both sensitive and specific in the diagnosis of Acanthamoeba keratitis. Contemporaneous corneal scrapings are independently sensitive in the detection of Acanthamoeba keratitis, and a combination of both diagnostic modalities offers the highest likelihood of rapidly and accurately diagnosing Acanthamoeba keratitis in patients with atypical keratitis.
1. **Corneal graft survival after therapeutic keratoplasty for Acanthamoeba keratitis**

**Author(s):** Kashiwabuchi R.T., De Freitas D., Alvarenga L.S., Vieira L., Contarini P., Sato E., Foronda A., Hofling-lima A.L.

**Citation:** Acta Ophthalmologica, 2008, vol./is. 86/6(666-669), 1755-375X (2008)

**Publication Date:** 2008

**Abstract:** To describe corneal graft survival and visual outcome after therapeutic penetrating keratoplasty in patients with Acanthamoeba keratitis (AK) that is unresponsive to clinical treatment. Method: Retrospective study. Thirty-two patients with AK who underwent therapeutic penetrating keratoplasty (tPK) from August 1996 to August 2005 were included. Data relating to clinical features, visual acuity, surgical technique, graft survival and complications were collected. Graft survival was evaluated by the Kaplan-Meier method and comparisons were performed using the Log-rank test. Results: Most patients (62.5%) were female. Mean age [+/- standard deviation (SD)] was 35 (+/- 13) years (range 15-68 years). All patients were contact lens wearers. Eighteen patients (56%) presented paralytic mydriasis and glaucoma during the treatment. Thirteen patients (40%) developed glaucoma after surgery; eight of them (61%) required a second PK because of graft failure. Of the 32 keratoplasty eyes, 56.2% presented graft failure at any follow-up point. Forty-five per cent of graft failures occurred before the 12month follow-up, so 55% remained clear in the first year after surgery. Twelve patients underwent a second PK; seven of them failed and 45% were clear at 1 year. Two patients presented graft recurrence of amoebic infection. There was no significant difference in graft survival when eyes with or without mydriasis were compared (P = 0.40). Eyes with glaucoma presented a significantly shorter graft survival (P = 0.01). Conclusion: Penetrating keratoplasty is a treatment option for eyes that are unresponsive to clinical treatment infections. However, graft survival is poor; postoperative glaucoma is frequent and is associated with shorter graft survival. Journal compilation 2008 Acta Ophthalmol.

**Source:** EMBASE

**Full Text:** Available in fulltext at EBSCO Host

1. **Rapidly Progressive Cataract and Iris Atrophy during Treatment of Acanthamoeba Keratitis**

**Author(s):** Herz N.L., Matoba A.Y., Wilhelmus K.R.

**Citation:** Ophthalmology, May 2008, vol./is. 115/5(866-869), 0161-6420 (May 2008)

**Publication Date:** May 2008

**Abstract:** Purpose: To identify characteristics associated with cataract occurring during the course of Acanthamoeba keratitis. Design: Retrospective observational case series. Participants: Eighty-one laboratory-confirmed patients with Acanthamoeba keratitis. Methods: Review of clinical records. Main Outcome Measures: Development of cataract during management of Acanthamoeba keratitis. Results: Rapidly progressive crystalline lens opacification occurred in 9 eyes within 4 to 15 weeks after diagnosis of Acanthamoeba keratitis. Three were associated with inflammatory complications, including anterior scleritis (2 eyes) and iridocyclitis (1 eye). Six others had the abrupt onset of a dense cataract, including 5 with iris atrophy, that occurred during the initial 6 months of therapy with chlorhexidine, a diamidine, and adjunctive corticosteroid. Extracapsular cataract extraction was performed with or after penetrating keratoplasty. Secondary
glaucoma developed in 6 of 9 eyes subsequent to iris atrophy (4 eyes) or a cyclitic membrane (2 eyes), and 3 eyes underwent trabeculectomy. Conclusions: Cataract may occur and progress during the management of Acanthamoeba keratitis in association with anterior segment inflammation, iris atrophy, and secondary glaucoma. 2008 American Academy of Ophthalmology.

Source: EMBASE

Full Text:

Available in print at Lincoln County Hospital Professional Library

1. 138. Bilateral Acanthamoeba Keratitis

Author(s): Wilhelmus K.R., Jones D.B., Matoba A.Y., Hamill M.B., Pflugfelder S.C., Weikert M.P.

Citation: American Journal of Ophthalmology, February 2008, vol./is. 145/2(193-197.e1), 0002-9394 (Feb 2008)

Publication Date: February 2008

Abstract: Purpose: To determine the prevalence and characteristics of binocular involvement among patients with Acanthamoeba keratitis. Design: Retrospective case series. Methods: Risk factors and outcomes of bilateral infection were explored among consecutive cases of Acanthamoeba keratitis diagnosed at a single institution from 1997 through mid 2007. Results: Fifty eyes were confirmed to have Acanthamoeba keratitis by microbiologic or histopathologic testing; two-thirds occurred during a regional outbreak beginning in 2004. Five (11%) of 45 patients had infection of both eyes, including three with concurrent involvement and two with successive disease of the contralateral cornea. Three binocularly infected patients used soft contact lenses, and two wore rigid gas-permeable lenses. Nine of 10 eyes achieved visual acuity of 20/30 or better after antiamoebic therapy. Conclusions: Bilateral Acanthamoeba keratitis is an infectious complication of contact lens wear. With laboratory confirmation, vision often can be restored with medical therapy. 2008 Elsevier Inc. All rights reserved.

Source: EMBASE

Full Text:

Available in print at Lincoln County Hospital Professional Library

Google Scholar

From 1st 50 results…

Google Advanced Search (delete if not appropriate)

From 1st 50 results…