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Literature Search Results

Search completion date: 25 May 2012
Search completed by: Jan Badcock

Enquiry Details

Valve replacements AND statins
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Evidence

Preoperative high-dose atorvastatin for prevention of atrial fibrillation after cardiac surgery: a randomized controlled trial. Links  Export Central Citation
Author(s) Kourliouros A, Valencia O, Hosseini MT, Mayr M, Sarsam M, Camm J, Jahangiri M
Source The Journal of thoracic and cardiovascular surgery
Date of Publication 2011 Jan , Volume 141, Issue 1, Pages 244-8
Abstract

OBJECTIVE: The preventative effect of statins on postoperative atrial fibrillation has been hypothesized. However, all studies to date have examined patients who did not receive statins before their further allocation to treatment or no treatment. Because guidelines recommend the routine use of statins in patients with coronary artery disease, we set out to examine the effect of intensive statin pretreatment versus continuation of usual statin dose on atrial fibrillation after cardiac surgery.

METHODS: Patients receiving routine statin treatment and undergoing coronary artery bypass surgery or aortic valve replacement with no history of atrial fibrillation or antiarrhythmic medication were randomized to receive atorvastatin 80 mg or atorvastatin 10 mg for 7 days before surgery in a single-blind fashion. The primary end point was the development of postoperative atrial fibrillation during hospital stay.

RESULTS: A total of 104 consecutive patients were included. Postoperative atrial fibrillation occurred in 33 patients (32.4%). No significant differences were found in demographics, medical history, or intraoperative variables between treatment groups, with the exception of higher rate of β-blocker use in the atorvastatin 10 mg group (75% vs 53%, P = .002) and previous myocardial infarction (62% vs 42%, P = .049). The incidence of postoperative atrial fibrillation was lower in the atorvastatin 80 mg group when compared with the atorvastatin 10 mg group, but this difference did not reach statistical significance (29% vs 36%, P = .43).

CONCLUSIONS: High-dose atorvastatin for 7 days before cardiac surgery conferred a nonsignificant reduction in postoperative atrial fibrillation when compared with a low-dose regimen. A larger study would be necessary to confirm the beneficial effect of high-dose statins in this setting.
Degenerative aortic valve stenosis is a common disease in western countries. When it becomes severe, it confers significant morbidity and mortality. Aortic stenosis has been recognized as a complex inflammatory and highly regulated process with histological and immunochemical similarities with the process of atherosclerosis. Hypertension, smoking and diabetes mellitus have consistently been linked to the development of aortic stenosis. Endothelial injury or other processes that contribute to coronary disease may play a role in calcific aortic stenosis. Several observational studies suggest that the key factors of aortic stenosis are lipoproteins and that medical therapies with cholesterol lowering drugs may retard its progression. Similarly, it has been suggested that the process of degeneration of the tissue heart valve has been associated with the same risk factors of atherosclerosis and shares many histological and molecular characteristics. Assuming all this concept, and evaluating the results of a retrospective study it has been suggested to use statin also as medical therapy able to prevent tissue valve degeneration. Randomized controlled clinical trials will be needed to demonstrate the role of lipid intervention to prevent the progression of aortic stenosis and the degeneration of tissue heart valves.

Do statins slow the process of calcification of aortic tissue valves?
Daniyar Gilmanov, Stefano Bevilacqua, Annamaria Mazzone, Mattia Glauber, G. Pasquinucci
A best evidence topic in cardiac surgery was written according to a structured protocol. The question addressed was whether statins slow the process of calcification of aortic tissue valves. Altogether 207 papers were found using the reported search, of which eight represented the best evidence to answer the clinical question. The authors, journal, date and country of publication, patient group studied, study type, relevant outcomes and results of these papers are tabulated. We acknowledge the limited evidence in this very specific field of cardiac surgery. Due to their pleiotropic effects, including anti-inflammatory properties, there has been speculation that statins could reduce and delay the degeneration and calcification of aortic bioprosthetic valves. Mainly, it was extrapolation of the recently discovered molecular similarities between atherosclerosis and native aortic valve stenosis (AS), with some evidence that statins may slow the progression of native aortic valve calcific degeneration, and the potential harmful impact of atherosclerotic risk factors on the development of native AS. Several studies have been conducted to evaluate the impact of hyperlipidemia and serum cholesterol levels on structural valve deterioration (SVD). Indeed, two studies suggested hyperlipidemia was a risk factor for SVD and correlated reoperation, from which one case-control study based on first-generation biological valves without specific anti-calcification treatment, while three - more convincing by number of patients observed and design of the study - reported contrary results. The other three studies focused on statin treatment in patients
after aortic biological valve replacement. Two studies confirmed beneficial effects of statin therapy on valve hemodynamics or inflammatory damage in vivo, but another study, with significantly greater patients series, found lipid-lowering therapy futile in this clinical aspect. Currently, studies and their results are discordant, but statin therapy appears insufficient to result in better clinical outcomes. We conclude that even though the data is conflicting, statin therapy does not prevent SVD of bioprosthetic valves in the aortic position.

http://icvts.ctsnetjournals.org/cgi/content/abstract/icvts.2009.230920v1
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1. Effect of statins on the progression of bioprosthetic aortic valve degeneration.

Citation: American Journal of Cardiology, December 2003, vol./is. 92/12(1479-82), 0002-9149;0002-9149 (2003 Dec 15)

Author(s): Antonini-Canterin F; Zuppiroli A; Popescu BA; Granata G; Cervesato E; Piazza R; Pavan D; Nicolosi GL

Language: English

Abstract: To date, there is no proved medical therapy able to significantly reduce the degenerative process of biologic prosthetic aortic valves. It has recently been suggested that statins may reduce the progression of native aortic valve stenosis. We examined the effect of statin treatment on bioprosthetic aortic valve degeneration and found a beneficial effect of statins in slowing bioprosthetic degeneration.

Publication Type: Comparative Study; Journal Article; Research Support, Non-U.S. Gov't

Source: MEDLINE


Citation: Italian Heart Journal: Official Journal of the Italian Federation of Cardiology, February 2004, vol./is. 5/2(85-8), 1129-471X;1129-471X (2004 Feb)

Author(s): Antonini-Canterin F; Popescu BA; Zuppiroli A; Nicolosi GL

Language: English

Publication Type: Editorial

Source: MEDLINE

3. Is there a role of statins in the prevention of aortic biological prostheses degeneration.

Citation: Cardiovascular Ultrasound, 2006, vol./is. 4/(26), 1476-7120;1476-7120 (2006)

Author(s): Antonini-Canterin F; Zuppiroli A; Baldessin F; Popescu BA; Nicolosi GL

Language: English

Abstract: It has been recently observed that statins might slow the progression of aortic stenosis or sclerosis. Preliminary reports suggested a similar positive effect in reducing the degeneration of aortic valve bioprostheses even though this hypothesis should be further proven and supported by new data. In this review the present evidences of the possible effects of statins in this field are discussed.

Publication Type: Journal Article; Review

Source: MEDLINE

Full Text: Available in fulltext at EBSCO Host
Available in fulltext at BioMedCentral
Available in fulltext at National Library of Medicine

4. Degeneration of native and tissue prosthetic valve in aortic position: do statins play an effective role in prevention?.

Citation: International Journal of Cardiology, March 2007, vol./is. 116/2(144-52), 0167-5273;1874-1754 (2007 Mar 20)

Author(s): Colli A; Gherli T; Mestres CA; Pomar JL

Language: English

Abstract: Degenerative aortic valve stenosis is a common disease in western countries. When it becomes severe, it confers significant morbidity and mortality. Aortic stenosis has been recognized as a complex inflammatory and highly regulated process with histological and immunochemical similarities with the process of atherosclerosis. Hypertension, smoking and diabetes mellitus have consistently been linked to the development of aortic stenosis. Endothelial injury or other processes that contribute to coronary disease may play a role.
in calcific aortic stenosis. Several observational studies suggests that the key factors of aortic stenosis are lipoproteins and that medical therapies with cholesterol lowering drugs may retard its progression. Similarly, it has been suggested that the process of degeneration of the tissue heart valve has been associated with the same risk factors of atherosclerosis and shares many histological and molecular characteristics. Assuming all this concept, and evaluating the results of a retrospective study it has been suggested to use statin also as medical therapy able to prevent tissue valve degeneration. Randomized controlled clinical trials will be needed to demonstrate the role of lipid intervention to prevent the progression of aortic stenosis and the degeneration of tissue heart valves.

Publication Type: Journal Article; Review
Source: MEDLINE

5. VAP-1, Eotaxin3 and MIG as potential atherosclerotic triggers of severe calcified and stenotic human aortic valves: effects of statins.

Citation: Experimental & Molecular Pathology, December 2007, vol./is. 83/3(435-42), 0014-4800;0014-4800 (2007 Dec)
Author(s): Anger T; Pohle FK; Kandler L; Barthel T; Ensminger SM; Fischlein T; Weyand M; Stumpf C; Daniel WG; Garlichs CD
Language: English
Abstract: Sclerotic calcification of the aortic valve is a common disease in advanced age. Its pathophysiology is unclear. However, pathobiological similarities to atherosclerosis have been shown in several studies. The current study assesses gene profiling of severe calcified stenotic human aortic valves identifying transforming growth factor (TGF)-beta, Eotaxin3, vascular adhesion protein-1 (VAP-1) and monokine induced by interferon-gamma (MIG) as potential atherosclerotic target genes in severe calcified and stenotic aortic valves, and analyzes the effects of statins on their expression as part of an anti-inflammatory treatment strategy. We collected human severe calcified and stenotic aortic valves with (CSAV+) or without (CSAV-) statin pre-treatment prior to valve replacement and investigated gene profiling by using micro-array technique and real-time PCR for the TGF-beta, Eotaxin3, VAP-1 and MIG expression. In comparison to atherosclerotic plaques of carotid arteries, immunohistochemical staining was investigated. Results were contrasted to human normal non-calcified aortic valves as controls (C). As compared to C, TGF-beta, Eotaxin3, MIG or VAP-1 was significantly upregulated in CSAV-. In CSAV+ no significant change in gene expression was found for Eotaxin3 and MIG. In contrast, VAP-1 and TGF-beta were still upregulated. Corresponding gene expression was confirmed on atherosclerotic plaque formations of carotid arteries. Monocyte/Macrophage infiltration (presence of CD68) on aortic valves (CSAV+, CSAV-, or C) confirmed inflammatory nature of the disease. Our data support further evidence for atherosclerotic inflammation as a trigger for sclerosis in end-stage calcified stenotic aortic valves by showing upregulation of gene expression for TGF-beta, VAP-1, MIG and Eotaxin3, which is only partially inhibited by previous statin therapy. Potent benefits of statin treatment on early stages of valve disease are still propagated.

Publication Type: Journal Article; Research Support, Non-U.S. Gov't
Source: MEDLINE


Citation: Journal of Thoracic & Cardiovascular Surgery, February 2008, vol./is. 135/2(405-11), 0022-5223;1097-685X (2008 Feb)
Author(s): Lertsburapa K; White CM; Kluger J; Faheem O; Hammond J; Coleman CI
Language: English
Abstract: OBJECTIVE: Recent studies have suggested that statins reduce atrial fibrillation after cardiothoracic surgery, but the use of proven prophylactic strategies such as beta-blockers and amiodarone in these studies was not provided. Therefore, we sought to determine whether preoperative statin use could reduce the incidence of post-cardiothoracic surgery
atrial fibrillation in a population who already had a high background use of beta-blockers and appreciable use of propylactic amiodarone.

METHODS: Patients undergoing cardiothoracic surgery from the randomized, controlled Atrial Fibrillation Suppression Trials I, II, and III were evaluated in this nested cohort evaluation. The patients' demographics, surgical characteristics, medication use, and incidence of post-cardiothoracic surgery atrial fibrillation (atrial fibrillation > 5 minutes duration) were uniformly and prospectively collected as part of Atrial Fibrillation Suppression Trials I, II, and III. Multivariate logistic regression was used to calculate adjusted odds ratios with 95% confidence intervals.

RESULTS: Overall, 331 patients (59.6%) received a statin preoperatively and 224 patients (40.4%) did not. The study population had an average age of 67.8 +/- 8.6 years, 77.1% were male, 14.6% had valve surgery, 6.1% had a history of atrial fibrillation, 12.6% had a history of heart failure, 84.0% received postoperative beta-blockade, and 44.1% received postoperative propylactic amiodarone. In total, 174 patients (31.4%) developed post-cardiothoracic surgery atrial fibrillation. Upon multivariate logistic regression, statin use was associated with a reduction in post-cardiothoracic surgery atrial fibrillation (adjusted odds ratio: 0.60; 95% confidence interval 0.37-0.99). Higher intensity statin dosing (equivalent of > or = 40 mg of atorvastatin) seemed to be associated with the greatest reductions in post-cardiothoracic surgery atrial fibrillation (adjusted odds ratio: 0.45; 95% confidence interval 0.21-0.99).

CONCLUSIONS: In a population with appreciable beta-blocker and amiodarone use, adjunctive preoperative statin use was still associated with a 40% reduction in patients' odds of developing post-cardiothoracic surgery atrial fibrillation.

Publication Type: Journal Article; Research Support, Non-U.S. Gov't
Source: MEDLINE
Full Text: Available in fulltext at Highwire Press

7. Dose-related effect of statins on atrial fibrillation after cardiac surgery. Invited commentary.

Citation: Annals of Thoracic Surgery, May 2008, vol./is. 85/5(1520), 0003-4975;1552-6259 (2008 May)
Author(s): Thomas SP
Language: English
Publication Type: Comment; Journal Article
Source: MEDLINE
Full Text: Available in fulltext at Highwire Press

8. Dose-related effect of statins on atrial fibrillation after cardiac surgery.

Citation: Annals of Thoracic Surgery, May 2008, vol./is. 85/5(1515-20), 0003-4975;1552-6259 (2008 May)
Author(s): Kourliouros A; De Souza A; Roberts N; Marciniak A; Tsiouris A; Valencia O; Camm J; Jahangiri M
Language: English
Abstract: BACKGROUND: Atrial fibrillation (AF) is the most common heart rhythm abnormality after cardiac surgery. It increases morbidity and prolongs hospital stay. A role for statins in the prevention of AF has been suggested. We hypothesized that the incidence of postoperative AF due to statin therapy is dose-related.

METHODS: A retrospective study of 680 consecutive patients undergoing coronary bypass graft surgery and/or aortic valve replacement was done. Excluded were 57 patients (8.4%) with history of AF, permanent pacemakers, and those receiving antiarrhythmic medication. Preoperative statin treatment and occurrence of postoperative AF were examined using propensity score matching to adjust for differences in patient characteristics between the statin and no-statin groups.

RESULTS: The cohort comprised 623 patients. The statin group had a 27.1% incidence of postoperative AF vs 38.3% in the no-statin group (adjusted odds ratio [OR], 2.00; 95% confidence interval, 1.24 to 3.24; p = 0.004). Simvastatin (40 mg) and atorvastatin (40 mg) demonstrated the greatest effect on postoperative AF at 15.6% and
21.2%, respectively, vs no statins (respective adjusted ORs, 3.89 [p < 0.0001] and 2.76 [p = 0.012]). Intermediate-dose (20 mg) statins were also effective against AF, at 24.4% for simvastatin (adjusted OR, 2.32; p = 0.004) and 26.4% for atorvastatin (adjusted OR, 1.99, p = 0.047). Low-dose statins, simvastatin or atorvastatin (10 mg), did not influence postoperative AF.

CONCLUSIONS: Statin treatment may reduce the incidence of AF after cardiac surgery. Higher-dose statins have the greatest preventative effect, whereas low-dose statins do not influence postoperative AF.

Publication Type: Comparative Study; Journal Article
Source: MEDLINE
Full Text: Available in fulltext at Highwire Press

9. Does Preoperative Statin Therapy Improve Outcomes in Patients Undergoing Isolated Cardiac Valve Surgery?

Citation: American Journal of Cardiology, November 2008, vol./is. 102/9(1235-1239), 0002-9149 (01 Nov 2008)
Author(s): Virani S.S.; Nambi V.; Lee V.-V.; Elayda M.; Reul R.M.; Wilson J.M.; Ballantyne C.M.
Language: English
Abstract: Preoperative statins have been associated with decreased mortality after coronary artery bypass grafting. Data are limited on whether these benefits extend to patients undergoing cardiac valve surgery. We examined whether preoperative statins decrease morbidity and mortality in patients undergoing isolated cardiac valve surgery. In a retrospective cohort analysis of consecutive patients who underwent surgical valve repair or replacement (excluding concomitant coronary artery bypass grafting, aortic root replacement, or ventricular assist device placement) at St. Luke's Episcopal Hospital, the primary outcome was 30-day mortality. Secondary outcomes included 30-day major adverse events (composite of early mortality, postoperative myocardial infarction, or stroke). Of 825 patients, 31% received preoperative statins (n = 255). Logistic regression analysis revealed that age >65 years (p = 0.02), history of congestive heart failure (p = 0.001), and total bypass time >80 minutes (p = 0.01) were independent predictors of increased 30-day mortality. Preoperative statin therapy was not associated with decreased 30-day mortality (odds ratio 0.89, 95% confidence interval 0.38 to 2.03), major adverse events (odds ratio 1.09, 95% confidence interval 0.61 to 1.96), postoperative myocardial infarction (p = 0.70), or stroke (p = 0.57). At a mean follow-up of 1.57 years, preoperative statin therapy was not associated with decreased mortality (p = 0.81). In the analysis using propensity score matching (354 propensity-matched patients, 177 in each group), preoperative statin was not associated with improved primary or secondary outcomes. In conclusion, preoperative statin therapy was not associated with a decrease in morbidity or mortality in patients undergoing isolated cardiac valve surgery. 2008 Elsevier Inc. All rights reserved.

Publication Type: Journal: Article
Source: EMBASE

10. Postoperative lipid-lowering therapy and bioprosthesis structural valve deterioration: justification for a randomised trial?.

Citation: European Journal of Cardio-Thoracic Surgery, January 2010, vol./is. 37/1(139-44), 1010-7940;1873-734X (2010 Jan)
Author(s): Kulik A; Masters RG; Bedard P; Hendry PJ; Lam BK; Rubens FD; Mesana TG; Ruel M
Language: English
Abstract: OBJECTIVE: Bioprosthesis structural valve deterioration (SVD) is an incompletely understood process involving the accumulation of calcium and lipids. Whether this process could be delayed with lipid-lowering therapy (LLT) is currently unknown. The purpose of this observational study was to evaluate if an association exists between early LLT and a slowing of bioprosthesis SVD, with a view to designing a prospective trial.
METHODOLOGY: We followed 1193 patients who underwent aortic valve replacement with contemporary bioprostheses between 1990 and 2006 (mean follow-up 4.5 +/- 3.1 years, maximum 17.3 years). Of these patients, 150 received LLT (including statins) early
after surgery. Prosthetic valve haemodynamics on echocardiography and freedom from re-operation for SVD were compared between patients who did and did not receive postoperative LLT.

RESULTS: After bioprosthetic implantation, the progression of peak and mean trans-prosthetic gradients during echocardiographic follow-up (mean 3.3 years) was equivalent between patients treated with and without LLT (peak increase: 0.9+/−7.7 vs 1.1+/−10.9 mmHg, LLT vs no LLT, P=0.87; mean increase: 0.8+/−4.1 vs 0.2+/−5.9 mmHg, LLT vs no LLT, P=0.38). The annualised linear rate of gradient progression following valve replacement was also similar between groups (peak increase per year: 2.0+/−12.1 vs 1.0+/−12.9 mmHg per year, LLT vs no LLT, P=0.52; mean increase per year: 0.5+/−2.2 vs 0.6+/−6.0 mmHg per year, LLT vs no LLT, P=0.94). The incidence of mild or greater aortic insufficiency on the most recent echocardiogram was comparable (16.3% vs 13.8%, LLT vs no LLT, P=0.44), and there was no difference in the 10-year freedom from re-operation for SVD between the two groups [98.9% (95% confidence interval (CI): 91.9%, 99.8%) vs 95.4% (95% CI 90.5%, 97.9%), LLT vs no LLT, P=0.72].

CONCLUSIONS: In this observational study, there was no association demonstrated between early postoperative LLT and a slowing of bioprosthesis SVD. With the excellent durability of bioprostheses in the current era, a prospective randomised trial of statin therapy to prevent bioprosthetic SVD does not appear to be justified, let alone feasible. Copyright 2009 European Association for Cardio-Thoracic Surgery. Published by Elsevier B.V. All rights reserved.

**Publication Type:** Journal Article

**Source:** MEDLINE

**Full Text:** Available in fulltext at Highwire Press

### 11. Statins for calcific aortic valve stenosis: into oblivion after SALTIRE and SEAS? An extensive review from bench to bedside.

**Citation:** Current Problems in Cardiology, June 2010, vol./is. 35/6(284-306), 0146-2806;1535-6280 (2010 Jun)

**Author(s):** Hermans H; Herijgers P; Holvoet P; Verbeken E; Meuris B; Flameng W; Herregods MC

**Language:** English

**Abstract:** Calcific aortic stenosis is the most frequent heart valve disease and the main indication for valve replacement in western countries. For centuries attributed to a passive wear and tear process, it is now recognized that aortic stenosis is an active inflammatory and potentially modifiable pathology, with similarities to atherosclerosis. Statins were first-line candidates for slowing down progression of the disease, as established drugs in primary and secondary cardiovascular prevention. Despite promising animal experiments and nonrandomized human trials, the prospective randomized trials SEAS and SALTIRE did not confirm the expected benefit. We review SEAS and SALTIRE starting with the preceding studies and discuss basic science experiments covering the major known contributors to the pathophysiology of calcific aortic valve disease, to conclude with a hypothesis on the absent effect of statins, and suggestions for further research paths. Copyright 2010. Published by Mosby, Inc.

**Publication Type:** Journal Article; Review

**Source:** MEDLINE

### 12. Statins may not prevent structural valve degeneration of aortic bioprosthetic valves, but should probably be prescribed to patients undergoing heart valve surgery nonetheless.

**Citation:** Interactive Cardiovascular & Thoracic Surgery, September 2010, vol./is. 11/3(302), 1569-9285;1569-9285 (2010 Sep)

**Author(s):** Paraskevas KI; Mikhailidis DP

**Language:** English

**Publication Type:** Comment; Journal Article

**Source:** MEDLINE
13. Do statins slow the process of calcification of aortic tissue valves?

Citation: Interactive Cardiovascular & Thoracic Surgery, September 2010, vol./is. 11/3(297-301), 1569-9285;1569-9285 (2010 Sep)

Author(s): Gilmanov D; Bevilacqua S; Mazzone A; Glauber M

Language: English

Abstract: A best evidence topic in cardiac surgery was written according to a structured protocol. The question addressed was whether statins slow the process of calcification of aortic tissue valves. Altogether 207 papers were found using the reported search, of which eight represented the best evidence to answer the clinical question. The authors, journal, date and country of publication, patient group studied, study type, relevant outcomes and results of these papers are tabulated. We acknowledge the limited evidence in this very specific field of cardiac surgery. Due to their pleiotropic effects, including anti-inflammatory properties, there has been speculation that statins could reduce and delay the degeneration and calcification of aortic bioprosthetic valves. Mainly, it was extrapolation of the recently discovered molecular similarities between atherosclerosis and native aortic valve stenosis (AS), with some evidence that statins may slow the progression of native aortic valve calcific degeneration, and the potential harmful impact of atherosclerotic risk factors on the development of native AS. Several studies have been conducted to evaluate the impact of hyperlipidemia and serum cholesterol levels on structural valve deterioration (SVD). Indeed, two studies suggested hyperlipidemia was a risk factor for SVD and correlated reoperation, from which one case-control study based on first-generation biological valves without specific anti-calcification treatment, while three - more convincing by number of patients observed and design of the study - reported contrary results. The other three studies focused on statin treatment in patients after aortic biological valve replacement. Two studies confirmed beneficial effects of statin therapy on valve hemodynamics or inflammatory damage in vivo, but another study, with significantly greater patients series, found lipid-lowering therapy futile in this clinical aspect. Currently, studies and their results are discordant, but statin therapy appears insufficient to result in better clinical outcomes. We conclude that even though the data is conflicting, statin therapy does not prevent SVD of bioprosthetic valves in the aortic position.

Publication Type: Journal Article; Review

Source: MEDLINE

Full Text: Available in fulltext at Highwire Press

14. Preoperative statins and complications following cardiac surgery

Citation: Intensive Care Medicine, September 2010, vol./is. 36/(S249), 0342-4642 (September 2010)

Author(s): Parias ngel M.N.; Font Ugalde P.; Guerrero Pabn R.

Language: English

Abstract: INTRODUCTION. Recent studies have suggested that preoperative statins use is associated with a reduction in infectious complications after cardiac surgery. OBJECTIVES. To assess the effect on morbidity of preoperative statins use in cardiac surgery. METHODS. Prospective and observational cohort study. We evaluated all of 124 consecutive patients who underwent coronary artery bypass graft (CABG) and/or valve surgery at our hospital between November 30, 2007 and, February 28, 2008. We described general characteristics and comorbidities (age, gender, weight, height, hypertension, diabetes, dyslipemia, chronic kidney failure), pharmacological treatments (betablockers, ACE, statins), type of cardiac surgery (CABG and/or valve replacement) and postoperative complications (pneumonia, bacteriemia, sternal wound, leg vein harvest site infection, urinary tract infection, stress ulcer, acute cardiac failure and length of stay at hospital). The time of monitoring was 90 days. Differences in categorical variables
were calculated using two-sided likelihood ratio Chi-square test or Fisher's exact test, and the Mann-Whitney U or Student t test was used for continuous variables, when appropriate. Cox proportional-hazards regression analysis was used to assess the impact of statins use on infectious complications across the time. Data analysis was done using SPSS for Windows 15.0.0 (SPSS, Chicago, IL, USA).

RESULTS. A total of 124 patients were included. The 48.4% (60) were women, the mean age was 65 +/- 11 years. The frequency of preoperative statins use were 40% (50 patients). In total, 61 (48%) patients developed an infectious complication. In our study, preoperative use of statins was not associated with a statistically reduction in any individual infection on its own (p<0.05 for all). CONCLUSIONS. In our patients, preoperative statin use was not associated with a reduction in the rate of postoperative infections within 90 days after surgery. May be useful to performance a randomized study (preoperative statins use versus no preoperative statins).

Publication Type: Journal: Conference Abstract
Source: EMBASE

15. eComment: Statins may not prevent structural valve degeneration of aortic bioprosthetic valves, but should probably be prescribed to patients undergoing heart valve surgery nonetheless

Citation: Interactive Cardiovascular and Thoracic Surgery, September 2010, vol./is. 11/3(302), 1569-9293 (September 2010)
Author(s): Paraskevas K.I.; Mikhailidis D.P.
Language: English
Publication Type: Journal: Article
Source: EMBASE
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16. Preoperative high-dose atorvastatin for prevention of atrial fibrillation after cardiac surgery: a randomized controlled trial.

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Abstract: OBJECTIVE: The preventative effect of statins on postoperative atrial fibrillation has been hypothesized. However, all studies to date have examined patients who did not receive statins before their further allocation to treatment or no treatment. Because guidelines recommend the routine use of statins in patients with coronary artery disease, we set out to examine the effect of intensive statin pretreatment versus continuation of usual statin dose on atrial fibrillation after cardiac surgery.METHODS: Patients receiving routine statin treatment and undergoing coronary artery bypass surgery or aortic valve replacement with no history of atrial fibrillation or antiarrhythmic medication were randomized to receive atorvastatin 80 mg or atorvastatin 10 mg for 7 days before surgery in a single-blind fashion. The primary end point was the development of postoperative atrial fibrillation during hospital stay.RESULTS: A total of 104 consecutive patients were included. Postoperative atrial fibrillation occurred in 33 patients (32.4%). No significant differences were found in demographics, medical history, or intraoperative variables between treatment groups, with the exception of higher rate of -blocker use in the atorvastatin 10 mg group (75% vs 53%, P = .002) and previous myocardial infarction (62% vs 42%, P = .049). The incidence of postoperative atrial fibrillation was lower in the atorvastatin 80 mg group when compared with the atorvastatin 10 mg group, but this difference did not reach statistical significance (29% vs 36%, P = .43).CONCLUSIONS: High-dose atorvastatin for 7 days before cardiac surgery conferred a nonsignificant reduction in postoperative atrial fibrillation when compared with a low-dose regimen. A larger study would be necessary to confirm the beneficial effect of high-dose statins in...
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