

Abstracts

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Differential Effect of Low-Dose Aspirin for Primary Prevention of Atherosclerotic Events in Diabetes Management: A Subanalysis of the JPAD Trial

Okada S, Morimoto T, Ogawa H, et al. *Diabetes Care* 2011;34:1277-83.

Conclusion: Low-dose aspirin reduces atherosclerotic events predominantly in patients with diabetes treated with diet alone and not in patients treated with oral hyperglycemic agents or with insulin.

Summary: There have been two large trials investigating low-dose aspirin and its ability to reduce cardiovascular events in patients with diabetes but without known vascular disease. Both were unable to demonstrate benefit, but both trials had potential flaws. The Prevention of Progression of Arterial Disease and Diabetes (POPADAD) trial failed to document a benefit of aspirin in Scottish patients with either type 1 or type 2 diabetes. However, there were fewer cardiovascular events than anticipated and low compliance with aspirin (Belch J. *BMJ* 2008;337:a1840). The second trial, Japanese Primary Prevention of Atherosclerosis with Aspirin for Diabetes (JPAD) trial did demonstrate a 20% reduction in atherosclerotic events with aspirin but did not reach statistical significance (Ogawa H. *JAMA* 2008;300:2134-41). There have also been epidemiologic studies suggesting patients with diabetes treated with insulin have increased mortality compared to those receiving oral hypoglycemic agents (OHAs) or managed by diet (Muggeo M, et al. *Diabetologia* 1995;38:318-25). It follows patients with diabetes treated with insulin may be the most likely to benefit from low-dose aspirin therapy. The authors therefore performed a subanalysis of the JPAD trial. Their working hypothesis was low-dose aspirin would be beneficial for primary prevention in patients with diabetes receiving insulin. JPAD was a randomized, controlled, open label trial. In the trial, 2539 patients with type 2 diabetes and no previous cardiovascular disease were randomly assigned to low-dose aspirin (81 or 100 mg daily) or to no aspirin. Median follow-up was 4.4 years. This paper analyzes the differential effects of low-dose aspirin in preventing atherosclerotic events in groups receiving different types of diabetic management. At baseline there 326 patients treated with insulin, 1750 treated with OHAs and 463 managed with diet alone. Patients treated with insulin had the worst glycemic control and the longest history of diabetes and the highest prevalence of diabetic microangiopathy. Patients treated with diet alone had the opposite characteristics. Atherosclerotic events occurred at an incidence of 26.6, 14.6 and 10.4 cases per 1000 person years respectively in the insulin, OHA, and diet alone groups. In patients treated with insulin or OHAs, low-dose aspirin did not affect atherosclerotic events (insulin HR 1.19; 95%CI, 0.6-2.4; and OHA HR, 0.84; 95% CI, 0.57-1.24). In the diet-alone group, however, low-dose aspirin did reduce atherosclerotic events despite the lowest event rate (HR, 0.21; 95% CI 0.05-0.64).

Comment: The fact aspirin was not effective in preventing atherosclerotic events in patients with diabetes treated with insulin or OHAs is compatible with recent literature. However, the finding that aspirin was effective in reducing vascular events in patients treated with diet alone is a new and a bit surprising. Perhaps in patients with advanced diabetes the burden of atherosclerosis is such new events are unpreventable by aspirin, or such patients have some degree of aspirin resistance. The decision to use aspirin to prevent vascular events in patients with diabetes should consider not only conventional cardiovascular risk factors, but the stage of the diabetes as well.

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Longevity and Outcomes of Axillary Valve Transplantation for Severe Lower Extremity Chronic Venous Insufficiency

Kabbani L, Escobar GA, Mansour F, et al. *Ann Vasc Surg* 2011;25:496-501.

Conclusion: Venous valve transplantation has good initial technical and symptomatic success but poor long term valve competency and symptom control.

Summary: Venous valve reconstruction using venous valve transplantation with a segment of axillary vein can be used to treat a small subset of patients with chronic venous insufficiency (CVI) who fail conservative therapy or more standard techniques of superficial venous surgery. In this study the authors report their experience with upper extremity to lower extremity venous valve transplantation for treatment of refractory CVI. There were 139 complex venous valve reconstructions performed between 1991 and 2007 for CVI, 18 underwent upper extremity to lower extremity venous valve transplantation. In 13 cases an upper extremity valve was transplanted to the popliteal vein, to the common femoral vein in 6 cases and to the saphenofemoral junction in two cases for a total of 21 procedures. All

patients had follow-up with duplex scanning to assess valve competency and received clinical follow-up as well. Mean follow-up was 37 months and 57% of the patients were men with a mean age of 44 years. Clinically, 57% of the limbs were CEAP 5-6. The mean preoperative venous disability score was 2.95. 66% of the patients had postthrombotic valvular dysfunction and no proximal venous obstruction was documented in any patient at the time of valve transplantation. Technical success of the operation was defined as a competent valve at the end of the procedure and was achieved in 20 of 21 cases. Post operative complications, primarily bleeding, occurred in one-third of patients. The mean postoperative venous disability score was 2.65 and this increased to 2.75 ($P = ns$ compared with baseline) at the last postoperative visit. Median time to return of symptoms was 12 months and median reflux free survival was 15 months.

Comment: Axillary valve transplantation is an example of a theoretically sound but poorly performing procedure to treat deep venous insufficiency in patients with CVI. The operation is not easy. Some axillary valves are incompetent. In six of the author's patients the valves needed to be repaired at the primary operation to achieve competency. Nearly 75% of the patients in this series were postthrombotic patients, arguably the most difficult subset of patients with refractory CVI. Whereas it appears axillary valve transplantation does not work well for postthrombotic CVI, there may be some subsets of patients, ie those with primary deep venous insufficiency, who may still potentially benefit from the procedure.

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Major Arterial Aneurysms and Pseudoaneurysms in Behcet's Disease: Results from a Single Centre

Cho SB, Kim T, Cho, S, et al. *Scandinavian Rheumatology* 2011;40:64-7.

Conclusion: One-third of patients with Behcet's disease (BD) and with BD related aneurysms will, upon further investigation, be found to have additional aneurysms.

Summary: BD is an autoinflammatory, multisystem, vasculitis that affects all sizes and types of vessels (Cocco G, et al. *Open Cardiovasc Med J* 2010;4:63-70). BD, however, mostly affects veins, venules and capillaries (Alpagut U, et al. *Ann Vasc Surg* 2007;21:232-9). Major arterial involvement is infrequent and occurs in only about 1 to 7% of BD patients. Arterial pathology is both arterial occlusions and aneurysm rupture, and it is the arterial involvement that correlates closely with mortality and morbidity in BD patients. This report focuses on 30 BD patients from Korea diagnosed with aneurysms and pseudoaneurysms of major arteries. The focus was on initial clinical symptoms, location of aneurysm lesions, and treatment responses. The data were derived from medical records retrospectively. There were 47 aneurysms and pseudoaneurysms in the 30 patients (32 saccular aneurysms, eight fusiform aneurysms, and seven pseudoaneurysms. Most pseudoaneurysms and aneurysms (27 patients, 90%) had not ruptured. Most patients presented with symptoms (70%, n = 21). One-third of patients had two or more aneurysm lesions. Aneurysm recurrence was observed in five patients after treatment with a stent graft (n = 3) graft interposition (n = 1) or embolization (n = 1).

Comment: Large artery arteritis is an infrequent, but a major cause of mortality in BD patients. The article confirms the clinical impression of an apparent high rate of graft related complications with treatment of BD aneurysms; perhaps related to ongoing inflammation in the BD patient. Of most interest is the fact that if you find an aneurysm in a patient with BD, if you look further, one-third of the time you will find an additional aneurysm. Therefore patients with BD and a discovered aneurysm essentially require visualization of their entire arterial system. BD arterial aneurysms can be found in virtually any artery from the aortic arch to the pulmonary circulation, as well as in intracranial arteries and the tibial arteries.

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Optimizing Protocols for Risk Prediction Asymptomatic Carotid Stenosis Using Embolic Signal Detection: The Asymptomatic Carotid Emboli Study

King A, Shipley M, Marks H, et al. *Stroke* 2011;42:2819-24.

Conclusion: Transcranial Doppler (TCD) recordings comprising 2 baseline sessions lasting one hour provide the best prediction of stroke risk in patients with asymptomatic carotid stenosis.

Summary: Randomized clinical trials have demonstrated that stroke risk can be reduced with prophylactic carotid endarterectomy (CEA). How-