RR26.

Splenic Artery Aneurysms (SAA) and Rupture Risk: A Closer Look at the Association With Pregnancy

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Objectives: Pregnancy is cited as the most important risk factor for SAA rupture, but the true prevalence of SAA rupture in pregnancy is unknown. Our objectives are to determine the natural history of SAA and identify risk factors for rupture in a hospital with the highest number of births in the United States.

Methods: Patients diagnosed with SAA during a recent 5-year period were identified using International Classification of Diseases, Ninth Revision, and Current Procedural Terminology codes. Risk factors for rupture and demographics were reviewed.

Results: Thirty-five patients (80% female), who were a median age of 63 years (interquartile range [IQR], 54-74 years) were identified with SAA. Median SAA size was 1.3 cm (IQR, 1-1.9 cm). Eight SAA (20%) were >2 cm. Despite the very large number of deliveries recorded during the study period (67,616 live births) there were no women younger than 45 years diagnosed with SAA. However, 89% of women with SAAs had previous pregnancies. Three patients (8.6%) presented with rupture, resulting in one death (one of 35 [2.9%]). All three patients had abdominal pain before rupture. Nineteen patients (54%) had serial imaging for a median of 32 months (IQR, 7-76 months); three patients ultimately came to elective repair, whereas the majority had no SAA change. Six patients (17%) had concurrent aneurysms, including 3 renal artery aneurysms, 1 aortic aneurysm, and 3 intracranial aneurysms. No demographic risk factors for enlargement or rupture were identified.

Conclusions: Ruptured SAA are exceedingly rare in young women. The purported association of pregnancy with SAA rupture is not supported by our data. SAA are frequently diagnosed as an incidental finding in middle-aged adults, and tend to remain stable over time.

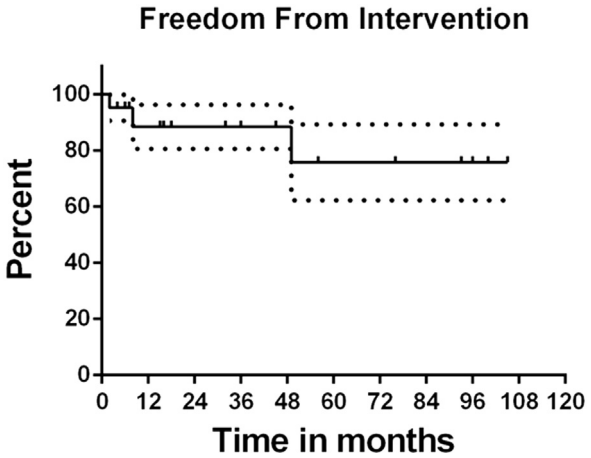

Fig.

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RR27.

Duplex Ultrasound Diagnosis of Failing Stent Grafts Placed for Occlusive Disease

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Objectives: We have previously shown that duplex ultrasonography (DUS) is beneficial in the diagnosis of failing vein and prosthetic grafts performed for arterial occlusive disease. The purpose of this study is to evaluate whether DUS can also reliably diagnose failing stent grafts (covered stents) placed for arterial occlusive disease.

Methods: Between July 1, 2005 and June 30, 2013, we placed 142 stent grafts in 73 patients (1.9 stent grafts/stenotic artery) for lower extremity occlusive disease who also underwent at least one DUS surveillance study documenting a patent stent graft. Stent grafts were placed in 27 iliac and 36 femoropopliteal arteries and 11 failing infrainguinal bypass grafts. Devices used were Viabahn in 116 (82%), Wallgraft in 23 (16%), Fluency in 2 (1%), and iCast in 1 (1%). Mean follow-up was 16 months (range, 1 week-86 months). Postoperative DUS surveillance was performed in our Intersocietal Commission for the Accreditation of Vascular Laboratories (ICAVL) accredited noninvasive vascular laboratory at 1 week, then every 3 months the first year and every 6 months thereafter. DUS measured peak systolic velocities (PSVs) and ratio of adjacent PSVs (Vr) every 5 cms within the stent graft and adjacent arteries.

Results: We retrospectively classified the following factors as "abnormal DUS findings": focal PSV >300 cms/s, uniform PSVs <50 cms/s throughout the graft, and Vr >3.0. Fifteen of 20 patients with one or more of these abnormal DUS findings underwent prophylactic intervention (8) or occluded without intervention (7), whereas only one of 53 with normal DUS findings occluded ($P = .001$). Excluding the eight patients who underwent prophylactic intervention, seven of 12 patients with abnormal DUS findings went on to occlude without intervention vs one of 53 with normal DUS findings ($P = .001$).

Conclusions: These findings suggest that follow-up DUS surveillance can predict failure of stent grafts placed for lower extremity occlusive disease. Focal PSV >300 cm/s, uniform PSVs <50 cm/s throughout the stent graft, or Vr >3.0 were statistically reliable markers for predicting stent graft thrombosis.

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RR28.

Care of Vascular Surgery Patients at Safety Net Public Hospitals (SNPH) is Associated With Higher Mortality and Costs

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