

- extensive thoracoabdominal aortic aneurysm repair. *J Thorac Cardiovasc Surg* 2010;**139**(6):1464–72.
- 12 Société Française d'Anesthésie Réanimation. *Les blocs périmédullaires chez l'adulte. Recommandations pour la pratique clinique*. Nancy: Bialec; 2006.
 - 13 Coselli JS, LeMaire SA, Schmittling ZC, Koksoy C. Cerebrospinal fluid drainage in thoracoabdominal aortic surgery. *Semin Vasc Surg* 2000;**13**(4):308–14.
 - 14 Kieffer E, Chiche L, Godet G, Koskas F, Bahnini A, Bertrand M, et al. Type IV thoracoabdominal aneurysm repair: predictors of post-operative mortality, spinal cord injury, and acute intestinal ischemia. *Ann Vasc Surg* 2008;**22**(6):822–8.
 - 15 Bobadilla JL, Wynn M, Tefera G, Acher CW. Low incidence of paraplegia after thoracic endovascular aneurysm repair with proactive spinal cord protective protocols. *J Vasc Surg* 2013;**57**(6):1537–42.
 - 16 Youngblood SC, Tolpin DA, LeMaire SA, Coselli JS, Lee VV, Cooper JR. Complications of cerebrospinal fluid drainage after thoracic aortic surgery: a review of 504 patients over 5 years. *J Thorac Cardiovasc Surg* 2013;**146**(1):166–71.
 - 17 Matsuda H, Ogino H, Fukuda T, Iritani O, Sato S, Iba Y, et al. Multidisciplinary approach to prevent spinal cord ischemia after thoracic endovascular aneurysm repair for distal descending aorta. *Ann Thorac Surg* 2010;**90**(2):561–5.
 - 18 Etz CD, Kari FA, Mueller CS, Silovitz D, Brenner RM, Lin HM, et al. The collateral network concept: a reassessment of the anatomy of spinal cord perfusion. *J Thorac Cardiovasc Surg* 2011;**141**(4):1020–8.
 - 19 Haulon S, Barilla D, Tyrrell M, Tsilimparis N, Ricotta JJ. Debate: whether fenestrated endografts should be limited to a small number of specialized centers. *J Vasc Surg* 2013;**57**(3):875–82.

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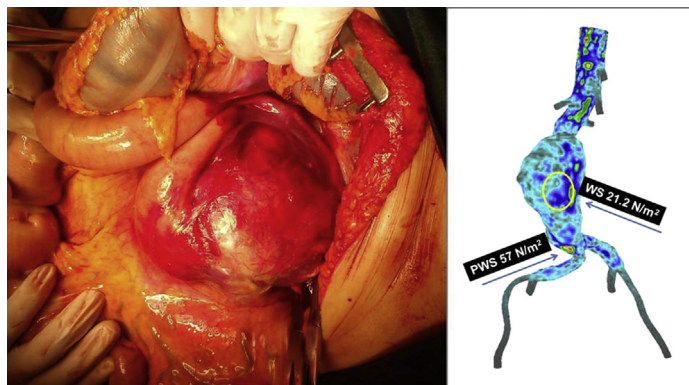
Rupture of Abdominal Aortic Aneurysm in the Low Wall Stress Zone

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An 81-year-old woman was admitted with back pain and a 68-mm abdominal aortic aneurysm (AAA). Intraoperatively, an area of imminent rupture was found at the left antero-lateral AAA wall (left image). A patient-specific geometric model of the AAA was created using CFDVasc software, which showed that the highest level of wall stress in the antero-lateral aortic wall was low ($\leq 21.2 \text{ N/m}^2$) (right image). This suggests that high levels of wall stress are not always related to the location and risk of AAA rupture. Both the quality of the aortic wall and the biochemical activity might play important roles

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