

**Thrombosis of prosthetic heart valves: diagnosis and therapeutic considerations  
(ht71183)**

**R Roudaut, K Serri, S Lafitte**

**Web only refs**

1. Paris M. Rétrécissement considérable de l'aorte pectorale observé à l'Hotel Dieu de Paris. *Jour de Chirurgie de Desault* 1791;ii:107.
2. Lewis T. Material relating to coarctation of the adult type. *Br Heart J* 1933;16:205–61.
3. Abbott ME. Statistical study and historical retrospect of 200 recorded cases, with autopsy, of stenosis or obliteration of the descending arch in subjects above the age of two years. *Am Heart J* 1928;3:392–421 and 574–618.
4. Reifenstein GH, Levine SA, Gross RE. Coarctation of the aorta: a review of 104 autopsied cases of the ‘adult-type’, 2 years of age or older. *Am Heart J* 1947;33:146–68.
5. Campbell M. Natural history of coarctation of the aorta. *Br Heart J* 1970;32:633–40.
6. Crafoord C, Nylin G. Congenital coarctation of the aorta and its surgical treatment. *J Thorac Surg* 1945;14:347–61.
7. Singer MI, Rowen M, Dorsy TJ. Transluminal aortic balloon angioplasty for coarctation of the aorta in the newborn. *Am Heart J* 1982;103:131–2.
8. O’Laughlin MP, Perry SB, Lock JE, et al. Use of endovascular stents in congenital heart disease. *Circulation* 1991;83:1923–1939.
9. Therrien J, Thorne SA, Wright A, et al. Repaired coarctation: a ‘cost effective’ approach to identify complications in adults. *J Am Coll Cardiol* 2000;35:997–1002.
10. Bower C, Ramsay JM. Congenital heart disease: A 10 year cohort. *Journal of Paediatrics & Child Health* 1994;30:414–418.
11. Campbell M, Polani PE, The aetiology of coarctation of the aorta. *Lancet* 1961;I:463–8.
12. Morrow WR, Huhta JC, Murphy DJ Jr, et al. Quantitative morphology of the aortic arch in neonatal coarctation. *J Am Coll Cardiol* 1986;8:616–20.
13. Gotzsche C-O, Krag-Olsen B, Nielsen J, et al. Prevalence of cardiovascular malformations and association with karyotypes in Turner’s syndrome. *Archives of Disease in Childhood* 1994;71:433–436.
14. Marx GR. “Repaired” Aortic Coarctation in Adults: Not a “Simple” Congenital Heart Defect. *JACC* 2000;35:1003–6.
15. Allan LD, Chita SK, Anderson RH, et al. Coarctation of the aorta in prenatal life: an echocardiographic, anatomical, and functional study. *Br Heart J* 1988;59:356–60.
16. Sharland GK, Chan KY, Allan LD. Coarctation of the aorta: difficulties in prenatal diagnosis. *Br Heart J* 1994;71:70–5.
17. Franklin O, Burch M, Manning N, et al. Prenatal diagnosis of coarctation of the aorta improves survival and reduces morbidity. *Heart* 2002;87:67–9.
18. Paladini D, Volpe P, Russo MG, et al. Aortic coarctation: prognostic indicators of survival in the fetus. *Heart* 2004;90:348–349.
19. Mehwald PS, Dittrich S, Grohmann J, et al. Coarctation of the aorta presenting as cerebral hemorrhage. *Journal of Pediatrics* 2005;146:293.

20. Dietl CA, Torres AR, Favaloro RG, *et al*. Risk of recoarctation in neonates and infants after repair with patch aortoplasty, subclavian flap, and the combined resection-flap procedure. *J Thorac Cardiovasc Surg* 1992;103:724–32.
21. Sciolaro C, Copeland J, Cork R, *et al*. Long-term follow-up comparing subclavian flap angioplasty to resection with modified oblique end-to-end anastomosis. *J Thorac Cardiovasc Surg* 1991;101:1–13.
22. Sweeney MS, Walker WE, Duncan JM, *et al*. Reoperation for aortic coarctation: techniques, results, and indications for various approaches. *Ann Thorac Surg* 1985;40:46–9.
23. Grinda JM, Mace L, Dervanian P, *et al*. Bypass graft for complex forms of isthmic aortic coarctation in adults. *Ann Thorac Surg* 1995;60:1299–302.
24. Elkerdany A, Hassouna A, Elsayegh T, *et al*. Left subclavian-aortic bypass grafting in primary isolated adult coarctation. *Cardiovasc Surg* 1999;7:351–4.
25. Mendelsohn AM, Crowley DC, Lindauer A, *et al*. Rapid progression of aortic aneurysms after patch aortoplasty repair of coarctation of the aorta. *J Am Coll Cardiol* 1992;20:381–5.
26. Parks WJ, Ngo TD, Plauth WH, *et al*. Incidence of aneurysm formation after Dacron patch aortoplasty repair for coarctation of the aorta: long-term results and assessment utilizing magnetic resonance angiography with three-dimensional surface rendering. *J Am Coll Cardiol* 1995;26:266–271.
27. Todd PJ, Dangerfield PH, Hamilton DI, *et al*. Late effects on the left upper limb of subclavian flap aortoplasty. *J Thorac Cardiovasc Surg* 1983;85:678–81.
28. Van Son JA, van Asten WN, van Lier HJ, *et al*. Detrimental sequelae on the hemodynamics of the upper left limb after subclavian flap angioplasty in infancy. *Circulation* 1990;81:996–1004.
29. Backer CL, Mavroudis C, Zias EA, *et al*. Repair of coarctation with resection and extended end-to-end anastomosis. *Ann Thorac Surg* 1998;66:1365–1370.
30. Elgamal M-A, McKenzie ED, Fraser CD. Aortic Arch Advancement: The Optimal One-Stage Approach for Surgical Management of Neonatal Coarctation With Arch Hypoplasia. *Ann Thorac Surg* 2002;73:1267–73.
31. Brouwer MHJ, Cromme-Dijkhuis AH, Ebels T, *et al*. Growth of the hypoplastic aortic arch after simple coarctation resection and end-to-end anastomosis. *J Thorac Cardiovasc Surg* 1992;104:426–433.
32. Jahangiri M, Shinebourne EA, Zurakowski D, *et al*. Subclavian flap angioplasty: does the arch look after itself? *J Thorac Cardiovasc Surg* 2000;120:224–9.
33. Kiraly L, Környei L, Mogyorossy G, *et al*. Hypoplastic aortic arch in newborns rapidly adapts to post-coarctectomy circulatory conditions. *Heart* 2005;91:233–234.
34. Brewer LA III, Fosburg RG, Mulder GA, *et al*. Spinal cord complications following surgery for coarctation of the aorta. *J Thorac Cardiovasc Surg* 1972;64:368–381.
35. Keen G. Spinal cord damage and operations for coarctation of the aorta: etiology, practice and prospects. *Thorax* 1987;42:11–18.
36. Wong CH, Watson B, Smith J, *et al*. The use of left heart bypass in adult and recurrent coarctation repair. *European Journal of Cardio-thoracic Surgery* 2001;20:1199–1201.

37. Lange R, Thielmann M, Schmidt KG, *et al*. Spinal cord protection using hypothermic cardiocirculatory arrest in extended repair of recoarctation and persistent hypoplastic aortic arch. *Eur J Cardiothorac Surg* 1997;11:697–702.
38. Rokkas CK, Murphy SF, Kouchoukos NT. Aortic coarctation in the adult: management of complications and coexisting arterial abnormalities with hypothermic cardiopulmonary bypass and circulatory arrest. *J Thorac Cardiovasc Surg* 2002;124:155–161.
39. Gudbjartsson T, Mathur M, Mihaljevic T, *et al*. Hypothermic circulatory arrest for the surgical treatment of complicated adult coarctation of the aorta. *J Am Coll Cardiol* 2003;41:849–851.
40. Hellebrand WE, Allen HD, Golinko RJ, *et al*. Balloon angioplasty for aortic recoarctation: Results of the valvuloplasty and angioplasty of congenital anomalies registry. *Am J Cardiol* 1990;65:793–797.
41. Isner JM, Donaldson RF, Fulton D. Cystic medial necrosis in coarctation of the aorta. *Circulation* 1987;75:689–95.
42. Balaji S, Oommen R, Rees PG. Fatal aortic rupture during balloon dilatation of recoarctation. *Br Heart J* 1991;65:100–101.
43. Redington AN, Booth P, Shore DF, *et al*. Primary balloon dilatation of coarctation of the aorta in neonates. *Br Heart J* 1990;64:277–281.
44. Shaddy RE, Boucek MM, Sturtevant JE, *et al*. Comparison of angioplasty and surgery for unoperated coarctation of the aorta. *Circulation* 1993;87:793–9.
45. Knyshov GV, Sitar LL, Glagola MD, *et al*. Aortic aneurysms at the site of the repair of coarctation of the aorta: a review of 48 patients. *Ann Thorac Surg* 1996;61:935–9.
46. Fujita T, Fukushima N, Taketani S, *et al*. Late true aneurysm after bypass grafting for long aortic coarctation. *Ann Thorac Surg* 1996;62:1511–3.
47. Kino K, Sano S, Sugawara E, *et al*. Late aneurysm after subclavian flap aortoplasty for coarctation of the aorta. *Ann Thorac Surg* 1996;61:1262–4.
48. Ovaert C, Benson LN, Nykanen D, *et al*. Transcatheter treatment of coarctation of the aorta: a review. *Pediatr Cardiol* 1998;19:27–44.
49. Suarez de Lezo J, Pan M, Romero M, *et al*. Immediate and follow-up findings after stent treatment for severe coarctation of aorta. *Am J Cardiol* 1999;83:400–6.
50. Marshall AC, Perry SB, Keane JF, *et al*. Early results and medium-term follow-up of stent implantation for mild residual or recurrent aortic coarctation. *Am Heart J* 2000;139:1054–60.
51. Magee AG, Brzezinska-Rajsrys G, Qureshi SA, *et al*. Stent implantation for Aortic Coarctation and Recoarctation. *Heart* 1999;82:600–606.
52. Magee AG, Blauth CI, Qureshi SA. Interventional and Surgical Management of Aortic Stenosis and Coarctation. *Ann Thorac Surg* 2001;71:713–5.
53. Balakrishnan KR, Thanikachalam S, Murthy JS, *et al*. Severe coronary artery disease with coarctation of the aorta: Role of off-pump coronary artery bypass grafting. *Annals of Thoracic Surgery* 2005;79:343–345.
54. Ince H, Petzsch M, Rehders T, *et al*. Percutaneous endovascular repair of aneurysm after previous coarctation surgery. *Circulation* 2003;108:2967–2970.
55. Hanley FL. The various therapeutic approaches to aortic coarctation: Is it fair to compare? *Journal of the American College of Cardiology* 1996;27:471–472.

56. Rao PS. Should balloon angioplasty be used instead of surgery for native aortic coarctation? *Br Heart J* 1995;74:578–9.
57. Sakopoulos AG, Hahn TL, Turrentine M, et al. Recurrent aortic coarctation: is surgical repair still the gold standard? *J Thorac Cardiovasc Surg* 1998;116:560–5.
58. Zoghbi J, Serraf A, Mohammadi S, et al. Is surgical intervention still indicated in recurrent aortic arch obstruction? *J Thorac Cardiovasc Surg* 2004;127:203–211.
59. Rosenthal E. Stent implantation for aortic coarctation: the treatment of choice in adults? *J Am Coll Cardiol* 2001;38:1524–1527.
60. Mullen MJ. Coarctation of the aorta in adults: do we need surgeons? *Heart* 2003;89:3–5.
61. Gibbs JL. Treatment options for coarctation of the aorta. *Heart* 2000;84:11–13.
62. Presbitero P, Demarie D, Villani M, et al. Long term results (15–30 years) of surgical repair of aortic coarctation. *Br Heart J* 1987;57:462–7.
63. Cohen M, Fuster V, Steele PM, et al. Coarcta-tion of the aorta. Long-term follow-up and prediction of outcome after surgical correction. *Circulation* 1989;80:840–5.
64. Therrien J, Warnes C, Daliento L, et al. Canadian Cardiovascular Society Consensus Conference 2001 update: recommendations for the management of adults with congenital heart disease part III. *Can J Cardiol* 2001;17:1135–1158.
65. Deanfield J, Thaulow E, Warnes C, et al. Management of grown up congenital heart disease. *Eur Heart J* 2003;24:1035–1084.
66. de Divitiis M, Pilla C, Kattenhorn M, et al. Ambulatory blood pressure, left ventricular mass, and conduit artery function late after successful repair of coarctation of the aorta. *J Am Coll Cardiol* 2003;41:2259–65.
67. Beekman RH, Katz BP, Moorehead-Steffens C, et al. Altered baroreceptor function in children with systolic hypertension after coarctation repair. *Am J Cardiol* 1983;52:112–117.
68. Johnson D, Perrault H, Vobecky SJ, et al. Resetting of the cardiopulmonary baroreflex 10 years after surgical repair of coarctation of the aorta. *Heart* 2001;85:318–325.
69. Cyran SE, Grzeszczak M, Kaufman K, et al. Aortic “recoarctation” at rest versus at exercise in children as evaluated by stress Doppler echocardiography after a “good” operative result. *Am J Cardiol* 1993;71:963–70.
70. Vriend JWJ, Van Montfrans GA, Romkes HH, et al. Relation between exercise-induced hypertension and sustained hypertension in adult patients after successful repair of aortic coarctation. *Journal of Hypertension* 2004;22(3):501–509.
71. Daniels SR. Repair of coarctation of the aorta and hypertension: does age matter? *Lancet* 2001;358:89.
72. Vlodaver Z, Neufeld HN. The coronary arteries in coarctation of the aorta. *Circulation* 1968;37:449–54.
73. Warnes CA. Bicuspid aortic valve and coarctation: two villains part of a diffuse problem. *Heart* 2003;89:965–6.
74. Roos-Hesselink JW, Schölzel BE, Heijdra RJ, et al. Aortic valve and aortic arch pathology after coarctation repair. *Heart* 2003;89:1074–1077.
75. Gardiner HM, Celermajer DS, Sorensen KE, et al. Arterial reactivity is significantly impaired in normotensive young adults after successful repair of aortic coarctation in childhood. *Circulation* 1994;89:1745–50.

76. de Divitiis M, Pilla C, Kattenhorn M, *et al*. Vascular dysfunction after repair of coarctation of the aorta: impact of early surgery. *Circulation* 2001;104(Suppl I):I-165–70.
77. Guenthard J, Wyler F. Exercise-induced hypertension in the arms due to impaired arterial reactivity after successful coarctation resection. *Am J Cardiol* 1995;75:814–817.
78. Pfammatter J-P, Berdat P, Carrel T. Impaired poststenotic aortic pulsatility after hemodynamically ideal coarctation repair in children. *Pediatric Cardiology* 2004;25:495–499.
79. Brili S, Dernellis J, Aggeli C, *et al*. Aortic elastic properties in patients with repaired coarctation of aorta. *Am J Cardiol* 1998;82:1140–1143.
80. Vriend JJW, De Groot E, Kastelein JJP, *et al*. Carotid and femoral B-mode ultrasound intima-media thickness measurements in adult post-coarctectomy patients. *International Angiology* 2004;23:41–46.
81. Lip G, Singh S, Beevers D, *et al*. Aortic coarctation diagnosed after hypertension in pregnancy. *Am J Obstet Gynecol* 1998;179:814–815.
82. Plunkett MD, Bond LM, Geiss DM. Staged repair of acute type I aortic dissection and coarctation in pregnancy. *Ann Thorac Surg* 2000;69:1945–1947.
83. Walker E, Malins AF. Anaesthetic management of aortic coarctation in pregnancy. *International Journal of Obstetric Anesthesia* 2004;13:266–270.
84. Perloff JK. Coarctation of the aorta. In: Perloff JK, Ed. *The Clinical Recognition of Congenital Heart Disease*, 4th ed. Philadelphia: Saunders, 1994:132–169.
85. Lin AE, Lippe BM, Geffner ME, *et al*. Aortic dilation, dissection, and rupture in patients with Turner syndrome. *J Pediatr* 1986;109:820–826.
86. Celermajer DS, Greaves K. Survivors of coarctation repair: fixed but not cured. *Heart* 2002;88:113–114.