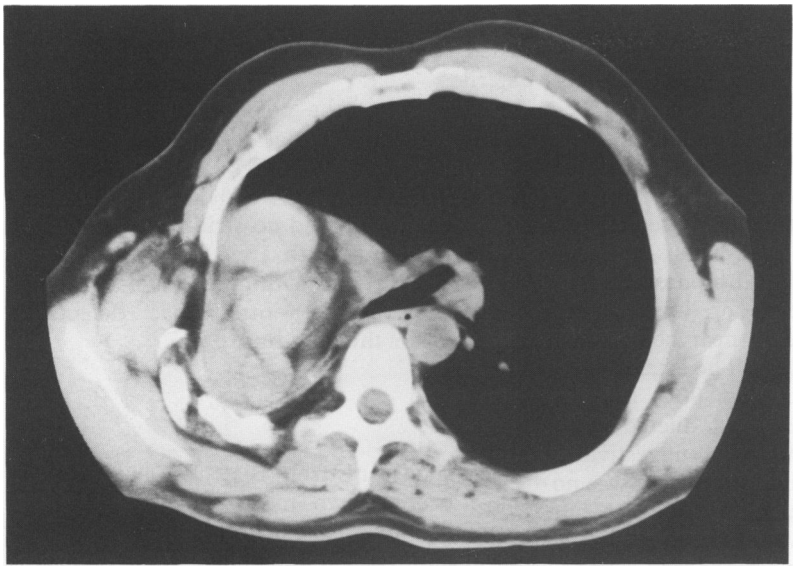

Figure 2 Computed thoracic tomogram showing the proximity and relation of the left main brochus to the vertebral column, oesophagus, and pulmonary artery.

though loss of lung function and stridor have been described.[1 4] The diagnosis and management of this syndrome have been comprehensively discussed in a recent report.[5]

We report a new variant of this syndrome – namely, bronchial obstruction resulting from swallowing solid food. We believe that oesophageal dilatation from a solid food bolus compressed the left main bronchus which was encased within a fixed space formed by the vertebral column, aortic arch, and great vessels. This variant probably results from an additional thoracoplastic chest wall deformity causing more than the usual postpneumonectomy anatomical derangement. In this patient a small dilatation of the poorly motile postpneumonectomy lower oesophagus from a solid food bolus appeared to cause significant left main bronchus compression.

His treatment has consisted of an exclusion diet. Whilst mediastinal repositioning and intrathoracic placement of mammary prostheses can correct the anatomical displacement in the postpneumonectomy syndrome,[5-7] it was judged too hazardous in this patient because of his previous thoracoplasty and pleural infections. Pleural adhesions may cause a failure of corrective thoracotomy in the postpneumonectomy syndrome.[4] Bronchial stenting of any type was considered too hazardous in this patient as any stent malfunction or problem with positioning would almost certainly have resulted in immediate death.

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False aneurysm following modified Blalock-Taussig shunt

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Abstract

A nine month old infant with life threatening tracheal compression due to a Blalock-Taussig shunt aneurysm is described. Successful surgical management is discussed.

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The Blalock-Taussig shunt is now a well recognised procedure for treating cyanotic congenital heart disease in infancy. The original operation consisted of anastomosis of the subclavian artery to the pulmonary artery,[1] but the use of polytetrafluoroethylene grafts to produce a communication between systemic and pulmonary circulation has simplified the procedure.[2] False aneurysm formation following a modified Blalock-Taussig shunt is a rare and potentially fatal complication.[3-5] We report a false aneurysm presenting with tracheal compression in a nine month infant with tetralogy of Fallot who had undergone a modified Blalock-Taussig shunt in the neonatal period. The aneurysm was successfully repaired with complete relief of the tracheal compression.

Case report

Shortly after normal full term delivery a female infant was noted to be cyanosed. Echocardiographic evaluation revealed a normal visceroatrial arrangement (situs solitus), a large atrial septal defect, and a large inlet ventricular septal defect with an overriding aorta. In addition, the baby had infundibular and valvar pulmonary stenosis. The aortic arch

was right sided. She was referred abroad for palliative surgery. A left modified Blalock-Taussig shunt using a 5 mm Gore-Tex tube was carried out on the 13th day of life. The postoperative course was uneventful. A repeat two dimensional echocardiogram indicated good left sided shunt function. On return she continued to grow along the third centile and did not show any signs of cyanosis. At nine months of age she developed biphasic stridor not associated with fever or leucocytosis. She rapidly deteriorated to near obstruction requiring urgent intubation. The arterial oxygen saturation increased from 80% to 95% following intubation. She had dilated veins over the upper chest and neck suggestive of superior vena caval obstruction. There was no abnormal pulsation over the left chest but a continuous murmur was heard. The initial chest radiograph revealed a broadened mediastinum, extending over the left upper lobe and compressing and displacing the trachea to the right. A computed tomographic scan of the chest suggested an aneurysm in relation to the left subclavian artery which was confirmed by angiography.

In view of severe tracheal and caval compression, emergency surgery was undertaken. A left lateral thoracotomy was carried out through the fourth interspace and the adherent lung was mobilised off the chest wall and mediastinum, revealing a large pulsatile aneurysm 5 cm in diameter at the thoracic outlet, displacing the trachea and the oesophagus to the right. The subclavian artery arose from a left sided innominate artery. The left carotid and subclavian arteries were completely obscured by the aneurysm.

Proximal control of the subclavian artery was obtained at its origin where the aneurysm was abutting on the carotid artery. Distal control of the subclavian artery was obtained where it exited from the chest beyond the aneurysm. The sac of the aneurysm was opened. The Gore-Tex graft had completely detached itself from the subclavian artery and was lying free in the cavity of the aneurysm. There was no retrograde bleeding from the pulmonary artery. It was obvious that the graft was not patent. There was bleeding from the opening in the subclavian artery through the vertebral artery which had not been controlled. The opening was oversewn and the subclavian artery was proximally and distally ligated. Since the infant maintained arterial saturations above 85% no further shunt surgery was undertaken. The graft was sent for bacteriological culture but was found to be sterile.

The rest of the postoperative course was uneventful and the patient was weaned off the ventilator after five days with oxygen saturation remaining above 85% in air. She started to feed well and had no stridor or respiratory distress. One month after the operation the child was thriving with mild cyanosis. A total correction of the intracardiac defects is planned for the near future.

Discussion

False aneurysms from Blalock-Taussig shunts have been known to produce fatal haemoptysis.[3,4] However, tracheal and superior vena caval compression due to false aneurysm complicating a modified Blalock-Taussig shunt has not been reported in the literature. The presentation of this patient was dramatic with acute tracheal compression and superior vena caval obstruction necessitating urgent endotracheal intubation. Contrast computed tomographic scan showed the aneurysm in relation to the subclavian artery, but angiography was carried out to better define the anatomy. Surgery relieved the respiratory distress and superior vena caval compression. Preoperative and intraoperative oxygen saturations were satisfactory even with a non-functioning shunt. It was thus not felt necessary to proceed with another shunt. One could only speculate on the need for the shunt procedure in the first instance. The aetiology of this aneurysm remains baffling. The fact that the sutures had completely dehisced suggests an infective aetiology even though cultures of the original graft were sterile. An alternative possibility was damage to the suture by a side-biting clamp.

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