capillary and interstitial hydrostatic pressures, oncotic pressures of plasma and interstitium and lymphatic flow.

We hypothesize that the mechanisms leading to unilateral re-expansion pulmonary edema can involve the opposite lung when there is significant contralateral lung compression. The marked right mediastinal displacement and subsequent atelectasis evident in this patient indicate that compression of the contralateral lung was present. Removal of the large volume of fluid in less than 30 min resulted in acute re-expansion of both lungs. Thus, the potential mechanisms that alter capillary permeability were present bilaterally.

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Regression of the Left Main Trunk Lesion by Steroid Administration in Takayasu’s Aortitis*

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A 62-year-old man with unstable angina due to severe narrowing of the left main trunk (LMT) was examined. Emergency bypass surgery was performed with an internal mammary artery graft, instead of a saphenous vein graft, because of the thickened, edematous ascending aorta. Postoperative coronary angiography showed the lesion of the LMT markedly regressing. Presumably, this stenotic lesion of the LMT was caused by active aortitis and was partially reversible by steroid administration both during and after surgery. Steroid therapy can be added to the list of treatments for cases of LMT disease associated with Takayasu's aortitis, if signs of active inflammation are present.

(Chest 1991; 99:508-10)

LMT = left main trunk; CRP = C-reactive protein; LAD = left anterior descending artery; CX = circumflex artery; IMA = internal mammary artery

A severe LMT lesion is an absolute surgical indication for aortocoronary bypass. In the present case, severe stenosis of the LMT due to Takayasu's aortitis regressed considerably after steroid administration.

Case Report

A 62-year-old man had noticed an oppressive sensation in his chest upon exertion since March 1989. On May 23, 1989, the sensation had lasted for ten hours, and he was transferred to this hospital. The peak creatine phosphokinase level was 796 IU, but no abnormal Q waves developed on electrocardiography. After admission, he remained free from angina pectoris with nitrates, calcium antagonists, and β-adrenergic blockers. The level of CRP was 5.5 mg/dl, and normocytic and normochromic anemia was present. Five days after admission, as the oppressive sensation in his chest became again associated with congestive heart failure and ST-segment depression in all chest leads, an emergency coronary angiography was performed after insertion of an intra-aortic balloon pump. A long segment of the LMT was found to be severely stenotic (Fig 1A). The right coronary artery gave poor collaterals to the LAD and the CX.

The patient's condition could not be controlled completely, regardless of the therapy; emergency bypass surgery was therefore

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performed. One hundred milligrams of betamethasone was administered during the surgery, as is usual in our hospital. The ascending aorta had whitish discoloration; the adventitia was thick and very edematous. As severe active ascending aortitis was suspected, only the left IMA was anastomosed with the LAD, rather than using a saphenous vein graft. The postoperative course was uneventful, except for persistent draining from the tube in the pericardium. Prednisolone (10 mg/day) was administered, with seven days of tapering off.

One month after surgery, the CRP level was 3 mg/dl, and the erythrocyte sedimentation rate was 78 mm/h. Coronary angiography at six weeks after surgery showed the lesion of the LMT markedly regressing and confined to the coronary ostium. The IMA graft was patent; the LAD and CX were supplied by the left coronary artery (Fig 1B).

Postoperative digital subtraction angiography showed the pulmonary artery to be free from aortitis and the aortic arch to be normal in shape, but mild stenosis was seen in the abdominal aorta (Fig 2). Signs of inflammation remained unchanged at six months after surgery, but the patient has been free from angina pectoris.

**DISCUSSION**

A severe LMT lesion, persistently abnormal CRP levels, and the thickened, edematous ascending aorta, as seen during surgery in this case, are characteristic of Takayasu's aortitis. Surgical therapy for Takayasu's aortitis during the active phase carries great risk. Generally, aortic valve replacement is postponed until inflammation has subsided with steroid therapy. Cherin et al. reported a case of reversible coronary stenosis after steroid administration. The regression was suspected by thallium scintigraphy but was not confirmed by coronary angiography. There have been no other reports on whether or not a coronary lesion due to Takayasu's aortitis is reversible. Although active inflammation was suspected in this case, emergency bypass surgery was performed with an IMA graft because of unstable angina. Postoperative coronary angiography showed that the LMT lesion regressed considerably; the LAD and CX were supplied not by the IMA graft, but by the coronary artery. This means that this LMT lesion was partially reversible and was caused by active vasculitis.

Usually, the LMT lesion due to Takayasu's aortitis is a short segmental and severe ostial stenosis resulting from chronic inflammation; however, sometimes the symptoms develop very rapidly, resulting in death, and active inflammation was present in the coronary artery histologically. In this case the LMT lesion was rather long, compared with the usual ostial stenosis due to aortitis. Thinking that the stenosis became less severe after steroid administration, this long and diffuse stenosis might be suggestive of active inflammation.

Steroid therapy can be added to the list of treatments for
Treatment of Atelectasis with Selective Bronchial Suctioning*

Use of a Curved-Tipped Catheter with a Guide Mark

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We applied our technique of selective bronchial suctioning (SBS) for the treatment of atelectasis (AT) of middle and lower lobes; nine patients with refractory ATs were successfully treated. We considered that SBS using a curve-tipped catheter with a guide mark (CTCGM) is the technique of choice for the treatment of refractory AT when conventional respiratory therapy is not effective and a bronchoscopist is not available. (Chest 1991; 99:510-12)

AT = atelectasis; SBS = selective bronchial suctioning; CTCGM = curve-tipped catheter with guide mark; STC = straight catheter

Atelectasis (AT) secondary to retained secretions is a common occurrence in postoperative and critically ill patients. Recently, fiberoptic bronchoscopy (FOB) has been used extensively in treatment, but a bronchoscopist may not always be available when FOB is necessary. Thus, we have developed a technique for selective bronchial suctioning (SBS) using a curve-tipped catheter with guide mark (CTCGM) and have successfully treated refractory AT of the middle or lower lobes by this technique. We describe our technique and report its use.

METHODS

All patients who underwent major surgery received general anesthesia with an appropriate cuffed endotracheal tube (ET). Immediately after intubations, we performed unilateral bronchial intubation to evaluate the distance from upper incisor teeth or alveolar ridge to the carina, also carina to right upper lobe bronchus by means of auscultation. The tip of the ET was situated 3 to 5 cm above the carina to allow for the length of the curved tip of the suction catheter (about 2.5 cm) depending on body height. The distance from the tip of the ET to the carina by auscultation agreed with measured roentgenographic distances. All measurements were recorded on the anesthesia chart. Postoperatively, endotracheal intubation was performed with the aid of intravenous diazepam whenever required for SBS.

For suctioning of the middle or lower lobes, the tip of the CTCGM is directed toward the objective bronchus and the guide mark of

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