A 63-year-old man presented with fever, hypotension and respiratory distress. Five years earlier he had undergone aortic valve replacement with a bileaflet mechanical prosthesis. He was resuscitated with fluids and inotropic agents, and endotracheal intubation and transesophageal echocardiography were performed. Multiple vegetations were seen covering the aortic valve prosthesis, and a fistula was seen between the ascending aorta and the left atrium (Fig. 1). Colour Doppler ultrasonography confirmed flow through the fistula (Fig. 2). After removal of the prosthetic valve through an aortotomy, the fistula (Fig. 3, arrow) was visualized at the superior edge of the noncoronary sinus. Although the fistula was closed and a bioprosthetic aortic valve inserted, the patient could not be weaned off cardiopulmonary bypass.

Fistula formation between the aorta and left atrium is usually due to endocarditis and may occur in the setting of both native and prosthetic valve replacement. The death rate is high; in a recent review, 3 of 6 patients died. Transesophageal as opposed to transthoracic echocardiography is highly accurate in establishing the diagnosis of endocarditis, as well as the extent of any complicating processes such as abscess or fistula formation. Once the diagnosis is made, early surgical repair is indicated.

Reference