

## IMAGES IN INTERVENTION

# Asymptomatic Giant Coronary Artery Aneurysms

## Images From Coronary Angiography, IVUS, and Echocardiography

Upasana Tayal, BM BCH, Ahmed Elghamaz, MB, BCH

London, United Kingdom

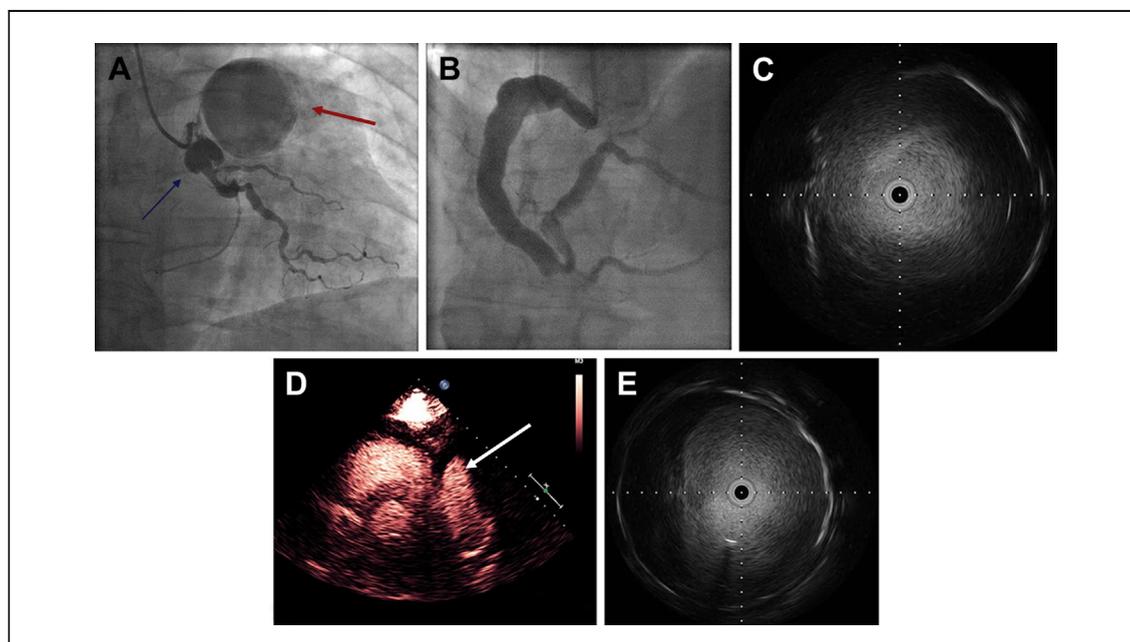
The incidence of coronary aneurysms varies from 1.5% to 5% of cases at angiography (1). The primary complications are ischemia and infarction due to thrombosis or dissection. Spontaneous rupture is rare. The presence of coronary aneurysms, with or without obstructive disease, is an independent risk factor for death (2).

These images are from a 66-year-old man incidentally found to have giant coronary and iliac artery aneurysms. He underwent computed tomography scanning for investigation of renal colic,

which revealed a 9.5-cm renal tumor. He did not have angina or claudication.

Coronary angiography showed giant coronary aneurysms (Fig. 1A and 1B). The etiology was unclear, probably atherosclerotic. There was no evidence of Kawasaki's disease.

We were unable to pass any wires into the left anterior descending artery (LAD) for intravascular ultrasound (IVUS) imaging or pressure wire studies. IVUS studies of the circumflex and right coronary arteries are shown (Figs. 1C and 1E).



**Figure 1. Coronary Aneurysm Images**

(A) Coronary angiogram (right anterior oblique cranial view) showing the left anterior descending artery (LAD) aneurysm (red arrow) and proximal circumflex aneurysm (blue arrow). Despite best efforts at acquisition, the exit of the LAD aneurysm could not be clearly identified. (B) Left anterior oblique cranial view of the right coronary artery (RCA) showing the aneurysm extending into the posterior left ventricular branch. (C) Intravascular ultrasound imaging of the circumflex aneurysm measuring 15 mm. (D) Stress echocardiography image showing the LAD aneurysm (arrow). (E) IVUS imaging of the RCA aneurysm measuring 16 mm.

He underwent stress echocardiography to complete risk stratification before a nephrectomy. Although there was no inducible ischemia, this provided a novel way to visualize the giant LAD aneurysm (Fig. 1D).

He underwent coronary artery bypass graft surgery (CABG) with excision of the LAD aneurysm. He then underwent bilateral aortofemoral bypasses of the iliac artery aneurysms measuring  $5.5 \times 10$  cm and  $6.2 \times 8$  cm.

Risk factors for atherosclerosis should be aggressively managed in these patients. However, optimal treatment strategies, especially in asymptomatic patients, remain unclear. Small uncomplicated aneurysms may be monitored. Larger aneurysms may be treated with percutaneous coronary intervention (PCI), particularly with covered stents, or CABG. Neither modality has proven survival benefits. Lack of commercially available stents to cover giant

aneurysms effectively ruled out PCI as a valid option in our case.

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**Reprint requests and correspondence:** Dr. Upasana Tayal, Northwick Park Hospital, Watford Road, London HA1 3UJ, United Kingdom. E-mail: utayal@nhs.net.

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#### REFERENCES

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**Key Words:** coronary aneurysms ■ coronary angiography ■ IVUS.