Profound regression of coronary atherosclerosis with statins

Mouhamad H Abdallah MD, Wassef Karrowni MD, Habib A Dakik MD

Figure 1 **A** Coronary angiography at baseline showing a 52% lesion in the proximal left anterior descending artery (LAD) (arrow). **B** Repeat angiogram after five years, with intensive statin therapy, showing significant regression of the LAD lesion (arrow) to 15% stenosis

A 60-year-old man was admitted to hospital because of chest pain. His only risk factor for coronary artery disease was hypercholesterolemia (cholesterol 7.64 mmol/L). Quantitative coronary angiography showed a 52% lesion in the proximal left anterior descending artery (Figure 1A). The patient was placed on acetylsalicylic acid and atorvastatin, and was followed up on a yearly basis with an exercise sestamibi nuclear scan, which was normal. A repeat coronary angiogram performed five years later for follow-up showed marked regression in the severity of the lesion in the proximal left anterior descending (15% stenosis by quantitative angiography) (Figure 1B). The patient's cholesterol concentration decreased to 4.45 mmol/L.

Statins have been proven to stabilize coronary atherosclerotic plaques and prevent coronary events in primary and secondary prevention clinical trials (1-3). Furthermore, Nissen et al (4) recently showed that intensive lipid-lowering therapy with atorvastatin reduces the progression of coronary atherosclerosis as assessed by intravascular ultrasound. These findings were extrapolated into clinical end points by Cannon et al (5), who showed that in patients recently hospitalized with an acute coronary

syndrome, intensive lipid-lowering statin therapy reduces the incidence of future cardiac events. Our case report suggests that lipid-lowering therapy with statins can sometimes be associated with profound regression of coronary atherosclerosis.

REFERENCES

1. Randomised trial of cholesterol lowering in 4444 patients with coronary heart disease: The Scandinavian Simvastatin Survival Study (4S). *Lancet* 1994;344:1383-9.
2. Shepard J, Cobbe SM, Ford I, et al. Prevention of coronary heart disease with pravastatin in men with hypercholesterolemia. West of Scotland Coronary Prevention Study Group. *N Engl J Med* 1995;333:1301-7.
3. Heart Protection Study Collaborative Group. MRC/BHF Heart Protection Study of cholesterol lowering with simvastatin in 20,536 high-risk individuals: A randomised placebo-controlled trial. *Lancet* 2002;360:7-22.
4. Nissen SE, Tuzcu EM, Schoenhagen P, et al. Effect of intensive compared with moderate lipid-lowering therapy on progression of coronary atherosclerosis: A randomized controlled trial. *JAMA* 2004;291:1071-80.
5. Cannon CP, Braunwald E, McCabe CH, et al. Intensive versus moderate lipid lowering with statins after acute coronary syndromes. *N Engl J Med* 2004;350:1495-504.

Department of Internal Medicine, American University of Beirut, Lebanon

Correspondence: Dr Habib A Dakik, American University of Beirut, PO Box 11-0236/A38, Beirut, Lebanon. Telephone 011-961-3-297084, fax 011-961-1-370814, e-mail hd01@aub.edu.lb

Received for publication October 12, 2005. Accepted November 10, 2005