GLOSSARY

INDEXED EOA
Prosthesis effective orifice area indexed to a patient's body surface area

Paclitaxel-eluting stents versus sirolimus-eluting stents in treatment of coronary vessels

In patients with ischemic heart disease, percutaneous coronary implantation of antiproliferative-drug-eluting stents reduces the rate of restenosis compared with intervention with bare-metal stents. At present, paclitaxel and sirolimus are the only FDA-approved drugs for use in drug-eluting stents, but the relative efficacy of these agents in preventing restenosis in small coronary vessels is not known.

The aim of the prospective randomized study by Mehilli *et al*. was to investigate whether paclitaxel-eluting stents were noninferior to sirolimus-eluting stents in terms of in-stent late luminal loss in 360 patients with *de novo* small coronary vessels (diameter <2.8 mm). Angiographic data, however—available for 313 patients—failed to show such a result. Patients treated with paclitaxel-eluting stents ($n = 154$, 174 lesions) experienced greater in-stent luminal loss than those treated with sirolimus-eluting stents ($n = 159$, 176 lesions, +0.32 mm; $P < 0.001$). Restenosis was observed in 33 lesions treated with paclitaxel-eluting stents and in only 20 lesions treated with sirolimus-eluting stents ($P = 0.047$); this difference was greatest in the smallest vessels (<2.24 mm). Paclitaxel-eluting stents were also inferior in terms of the number of target lesion revascularization procedures required (revascularization performed in 30 of 204 lesions vs 13 of 198 in the sirolimus group; $P = 0.008$).

The results show that, in patients with lesions in small coronary arteries, sirolimus-eluting stents are superior to paclitaxel-eluting stents in terms of in-stent late luminal loss, the occurrence of angiographic restenosis and the need for revascularization.

Kate Matthews

Original article Mehilli J *et al.* (2006) Randomized trial of paclitaxel- and sirolimus-eluting stents in small coronary vessels. *Eur Heart J* **27:** 260–266

Does prosthesis–patient mismatch affect outcome of aortic valve replacement?

Prosthesis–patient mismatch (PPM) occurs when a prosthetic aortic valve with a smaller effective orifice area (EOA) than that of the patient's native valve is implanted. PPM results in abnormally high transvalvular pressure gradients, but it is unclear whether postoperative survival is affected. Tasca *et al.* investigated the effect of PPM, defined as an INDEXED EOA, on overall out-of-hospital mortality and cardiac events after aortic valve replacement (AVR).

The study included 315 patients who underwent AVR for pure aortic stenosis at a hospital in Brescia, Italy, from September 1997 to September 2003. Follow-up visits at 3 months and annual telephone interviews were used to investigate mortality and cardiac events (cardiac death, sudden death, hospital readmission for angina, heart failure or syncope). Mean follow-up was 3.7 ± 1.7 years.

PPM occurred in 47% of patients. Patients with PPM were older, had higher body surface area, had a higher BMI and were more likely to be female than patients without PPM ($P < 0.001$, $P = 0.007$, $P < 0.001$ and $P = 0.003$, respectively). More deaths occurred in the PPM group than in the non-PPM group (23 vs 6 deaths; $P = 0.003$), and PPM patients were also more likely to experience a cardiac event (30 vs 11 patients; $P = 0.006$).

The authors conclude that PPM has strong predictive value in terms of mortality and cardiac event risk in patients with pure aortic stenosis undergoing AVR. They note that these risks could be reduced substantially by estimating indexed EOA before prosthesis implantation.

Rebecca Ireland

Original article Tasca G *et al.* (2006) Impact of prosthesis–patient mismatch on cardiac events and midterm mortality after aortic valve replacement in patients with pure aortic stenosis. *Circulation* **113:** 570–576

Inverse association between fish intake and risk of CHD

Eating a small amount of fish every week, corresponding to 30–60 g per day, is associated with a reduced risk of coronary heart disease (CHD) in Western countries. In Japan, however, most adults consume about 100 g of fish per day and, although the incidence of fatalities related to CHD is about 25% less there than in Western countries, it is unclear whether this difference is related to the amount of fish in the Japanese diet.

Iso *et al.* carried out a prospective trial to investigate the link between fish consumption