I have to question whether PCI would give worse neurocognitive function. I can tell you as a surgeon that if I had the choice of having a stent versus CABG, I’d take a stent every time—and I think I’d be smarter in the end," said Dr. Robbins, professor and chairman of the department of cardiothoracic surgery at Stanford (Calif.) University.

"This discussion is different than any other discussion," Dr. Robbins added a caveat: PCI in Octopus patients may have led to worse cognitive outcome is not one of them, Dr. Robbins said.

The Octopus population comprised 280 low-risk patients with preserved left ventricular function, single-vessel disease, and a mean age of 60.

The composite cardiac end point of death, stroke, or MI occurred in 17.4% of the PCI group over the course of 7.5 years and was not significantly different, at 19.2%, in the OPCAB group. Mortality was 8.7% with PCI and 13.4% with OPCAB, a nonsignificant difference. But the 21.7% repeat revascularization rate in the PCI group was significantly higher than the 11.3% rate with OPCAB.

Manipulation of the aorta occurred in 100% of PCI patients but in only 15% of those who received OPCAB. That difference plays a key role in the Octopus investigators’ interpretation of the cognitive outcome differences.

Imaging data show “that microemboli do occur during PCI,” Dr. Regieli said. “Subclinical cerebral injury during repeated cardiac catheterization in the PCI-treated patients may have led to worse cognitive performance in that group.”

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The Octopus population comprised 280 low-risk patients with preserved left ventricular function, single-vessel disease, and a mean age of 60. Although both defects were not observed in rabbits given oral doses of up to 150 mg/kg/day, plasma concentrations of bosentan in rabbits were lower than those reached in the rat. The similarity of malformations induced by bosentan and those observed in endothelin-1 knockout mice and in animals treated with other endothelin receptor antagonists indicates that teratogenicity is a class effect of these drugs (see Nonclinical Toxicology).

Reproductive and Developmental Toxicology

There are sound reasons for a patient to opt for OPCAB rather than PCI—a lower repeat revascularization rate, ves- sels unsuitable for stenting—but an ex- pectation of better cognitive outcome is not one of them, Dr. Robbins said.

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