Drug Monitor

Are Drug-Eluting Stents Safe in Patients with Diabetes?

Recent data showing higher rates of late stent thrombosis and possibly higher rates of myocardial infarction (MI) and death with drug-eluting stents (DES) versus bare metal stents (BMS) have raised safety concerns. In 2007, however, researchers from Sunnybrook Health Sciences Centre and Institute for Clinical Evaluative Sciences, Toronto and McMaster University and St. Joseph's Hospital, Hamilton, all in Ontario, Canada, published findings of a large, population-based, cohort study that demonstrated greater effectiveness for DES—with no significant increase in mortality or MI over two to three years.

More recently, these researchers addressed the safety of DES specifically in patients with diabetes—who make up approximately 25% to 30% of all patients undergoing percutaneous coronary intervention (PCI). They conducted a similar study involving 2,374 patients with and 4,910 patients without diabetes. Both cohorts consisted of propensity-matched pairs of DES- and BMS-treated patients.

At two years post-PCI, the repeat target-vessel revascularization (TVR) rate among patients with diabetes who received a DES was half that of those who received a BMS (7% versus 14%). Among nondiabetic patients, DES also was associated with a significant, though less dramatic, reduction in TVR.

Overall, MI rates were not significantly different between DES- and BMS-treated patients—in either the diabetic or the nondiabetic cohort. And mortality rates actually were nonsignificantly lower among diabetic patients treated with DES than among those treated with BMS (7.6% versus 9.5%) and significantly lower among nondiabetic patients treated with DES than among those treated with BMS (3.7% versus 5%). The researchers advise caution in interpreting the trend toward lower mortality, however, since randomized studies have not shown a mortality benefit for DES.

Even so, they say their findings demonstrate that DES substantially reduces the future need for TVR without raising the risk of MI or death when used in well selected patients with diabetes. Although all observational studies are limited by possible confounding, the researchers contend that their method of closely matching patients by their propensity to receive DES allowed them to build a cohort of patients who were "similar in all important measured risk factors."

Sources: *Am Heart J.* 2008;156(1):125–134. doi:10.1016/j.ahj.2008.01.029.

N Engl J Med. 2007;357(14):1393–1402.

Minimizing Postoperative Delirium: Peripheral Regional vs. Intravenous Analgesia

According to researchers from Son Llatzer Hospital in Baleares, Spain, patient-controlled femoral nerve analgesia (PCFA) improves the quality of postoperative analgesia. They retrospectively reviewed medical records of 99 patients aged 50 years and older who received either PCAF (49 patients) or conventional, intravenous analgesia (50 patients) following surgery for hip fracture. Patients in the PCAF group were far less likely to develop postoperative delirium than those in the conventional analgesia group (8% versus 42%). Additionally, none of the PCAF patients received morphine rescue medication, whereas 28% of the conventional group did. Thanks to the earlier, more effective pain relief, the researchers say, PCAF patients also were able to sit at the bedside substantially sooner than patients who received conventional analgesia.

Source: *Acute Pain.* 2008;10(2):59–64. doi:10.1016/j.acpain.2008.02.001.

Oxytocin and Uterine Rupture

To avoid uterine rupture, the dose of oxytocin should be no more than 20 mU/min for women attempting a vaginal birth after a previous cesarean delivery (VBAC), say researchers from Washington University School of Medicine, St. Louis, MO. The higher the dose and longer the duration of therapy, they found, the greater the chance of uterine rupture.

The researchers conducted a nested case-control study within a multicenter, retrospective, cohort study of more than 25,000 women with at least one prior cesarean delivery. Among this cohort, 13,706 women were attempting a VBAC, 134 of whom experienced uterine rupture (cases). From the remaining women who attempted VBAC and didn't rupture, the researchers randomly selected 670 controls. Among the 804 total cases and controls, they compared 62 cases and 210 controls who received oxytocin.

The results showed that the maximum oxytocin dose range of 6 to 20 mU/min tripled the risk of uterine rupture associated with the lowest maximum range (1 to 5 mU/min). Maximum ranges above 20 mU/min increased the risk fourfold or greater.

Source: *Am J Obstet Gynecol.* 2008;199(1):32.e1–32.e5. doi:10.1016/j.ajog.2008.03.001.