Remifentanil and propofol sedation cost saving in ICU

A remifentanil and propofol (RP) sedation regimen was cost effective compared to a midazolam and fentanyl (MF) regimen when administered to mechanically-ventilated patients following cardiac surgery, according to the results of a German study presented at the 8th Annual European Congress of the International Society for Pharmacoeconomics and Outcomes Research (ISPOR), held in Florence, Italy.

Their prospective single-blinded study compared the costs, ventilation times, and discharge times of 80 ICU patients sedated with either the RP or MF regimen:

- remifentanil (6 to a maximum of 60 µg/kg/h) and as required propofol (0.5–4 mg/kg/h)
- midazolam (0.02–0.2 mg/kg/h) and fentanyl (1–7 µg/kg/h).*

Patients sedated with the RP regimen were removed from mechanical ventilation 3.5 hours sooner and discharged 18.3 hours earlier than patients sedated with the MF regimen, for an equivalent cost.** As baseline dosing levels for RP were high in this study, medication costs may actually be lower in routine practice, saving an estimated €200 per patient. The RP regimen dominated MF sedation, as it reduced "*the mechanical ventilation time and hence the risk of ventilator-associated morbidity at equal costs (baseline) or even savings (scenario)*", conclude the authors. The results were sensitive to variations in staff and drug costs.

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** Costs (2003 values) included drugs, materials, and staff, and are reported from the perspective of the hospital system.

Muellejans B, et al. Pharmacoeconomic evaluation of sedation with remifentanil/propofol versus midazolam/fentanyl in the intensive care unit. Value in Health 8: A15 (plus poster) abstr. DN4, No. 6, Nov-Dec 2005 801025711