Anesthesia Monthly
Volume 3, Issue 7
July 2016

Risk-Based Reimbursement Is Under Construction

While CMS contends that nearly 30% of its reimbursement to hospitals is tied to some level of performance, providers themselves say they are deriving a minuscule amount of their net patient revenue from risk-based contracts rather than fee-for-service medicine. Hospitals are either not eager to bear downside risk because they are afraid, or they cannot find the health plans willing to share the data needed to negotiate contracts perceived as fair to both parties, said Len Nichols, director of the Center for Health Policy Research and Ethics at George Mason University in Fairfax, Va. “Both phenomena are operational across America today,” Nichols added. Hospitals appear to have good reason to be skittish about taking on risk-based contracts, according to a recent survey of 142 providers by accounting and consulting giant KPMG. The firm found that 52% expected their value-based contracts to lead to a drop in operating profit or surplus. That contrasted with 47% two years ago. Of those expecting some decline in operating profit, 27% expected that drop to be 10% or more, according to the survey. Only 10% of the 142 respondents felt that value-based contracts would produce an improvement in operating profit of more than 10%.

Hospitals will get more comfortable with risk-based contracting when they finally figure out what their real costs of care are per patient episode rather than service delivered, said Dion Sheidy, KPMG's advisory leader for healthcare. That means closely managing care preparation, diagnostics, treatment, post-treatment and pharmaceutical costs to understand the payment they can afford to accept, Sheidy said. That's still a work in progress at most health systems, though.

Compound Shown To Reduce Brain Damage Caused By Anesthesia

An experimental drug prevented learning deficits in young mice exposed repeatedly to anesthesia, according to a study led by researchers from NYU Langone Medical Center and published in *Science Translational Medicine*. The study results may have implications for children who must have several surgeries, and so are exposed repeatedly to general anesthesia. Past studies have linked such exposure to a higher incidence of learning disabilities, attention deficits and hyperactivity. Specifically, the research team found that the experimental drug CX546, part of the AMPAkine class in clinical trials for several neurological conditions, counters for the dampening effect of anesthesia on nerve signaling. The treatment bolstered nerve cell activity as well as learning ability in mice recovering from repeated exposure to general anesthesia. “Each year, in the United States alone, more than a million children under age four undergo surgical procedures that require anesthesia, and the numbers are growing,” says the study's senior investigator Guang Yang, PhD, assistant professor of anesthesiology at NYU Langone. “There are currently no effective treatments to combat potential toxicity linked to repeated anesthesia, and we would like to change that.” The research team found that anesthesia exposure resulted in a prolonged reduction of signal transmission among nerve cells following anesthesia. They also observed that CX546 treatment enhances this transmission, along with learning and memory in mice exposed to anesthesia.
Post-operative cognitive dysfunction (POCD), often presenting in older patients under general anesthesia (GA), is on the rise as Americans age, but new research identifies strategies to rein in the trend. Brazilian investigators believe POCD in this population can be curbed by avoiding deep anesthesia during operations and by administering dexamethasone, an anti-inflammatory drug, just before a procedure. The conclusions are based on a study of 140 older adults randomly assigned to deep anesthesia, superficial anesthesia, deep anesthesia with dexamethasone, or superficial anesthesia with dexamethasone for their surgeries.

"Our findings confirm recent evidence that the deeper the anesthesia-induced hypnosis, the higher the incidence of POCD," said lead researcher Maria Jose Carvalho Carmona, an anesthesiology professor at the University of Sao Paulo. "The literature points to a link with the systemic inflammatory response induced by surgical trauma, damaging the central nervous system. If so, the use of an anti-inflammatory drug may have a protective effect." The study was conducted with FAPESP's support during the PhD research of Lívia Valentin, the first author of the article.

For the study, the researchers evaluated 140 patients aged between 60 and 87 who underwent surgery under propofol-induced general anesthesia at the Central Institute of Hospital das Clínicas, FM-USP's teaching hospital, in most cases for removal of gallstones. "We excluded cases of heart and orthopedic surgery, two of the procedures most frequently associated with POCD and hence the most explored in previous research," Carmona said.

Pre-operative assessment included a battery of tests to measure mental and cognitive status. Patients who failed to achieve a cutoff score were excluded. The remaining subjects were divided randomly into four groups. In the operating room, deep anesthesia typical of major surgical procedures was induced in the first and third groups, and more superficial anesthesia in the second and fourth. Only the third and fourth groups received dexamethasone. The depth of anesthesia was monitored using bispectral index (BIS) technology, which processes electroencephalogram signals to measure drug-induced unconsciousness. The researchers classified a BIS of 35-45 as deep anesthesia and a BIS of 46-55 as superficial anesthesia.

In the first group (deep anesthesia without dexamethasone), the incidence of POCD on the third day after surgery was 68%, and 25.3% of individuals still displayed impaired cognitive functions after six months. In the second group (superficial anesthesia without dexamethasone), only 27.2% displayed post-operative POCD, although six months later the proportion had hardly changed (21.7%). In the third group (deep anesthesia with dexamethasone), the incidence of POCD was 25.2% immediately after surgery but fell to only 3.1% after six months. In the fourth group (superficial anesthesia with dexamethasone), the incidence of POCD was 15.3% immediately after surgery, but after six months the pre-operative cognitive status was restored in all patients. "The results reinforce recent evidence of the importance of avoiding deep anesthesia," Carmona said. "With regard to the use of dexamethasone, more research is needed to confirm our finding, preferably in multicenter trials, but there are strong indications that it can be beneficial in many cases."