Dexmedetomidine for pediatric MRI sedation: a review of a series of cases.
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Abstract:

Background: The aim of this review was to determine whether dexmedetomidine alone provided satisfactory conditions for children undergoing magnetic resonance imaging (MRI). *Methods*: A retrospective review of 21 patients was undertaken, (age range: 1–8 years, weight 10–27 kg) who received dexmedetomidine to provide deep sedation for an MRI procedure. *Results*: In the initial eight patients who received dexmedetomidine (bolus 0.5–1.5 $mg \cdot kg^{1}$ and infusion rate 1–1.5 $mg \cdot kg^{1} \cdot h^{1}$) by itself, movement occurred in five of them, even when the maximum suggested dose was used (1 $\mu g \cdot kg^{1} \cdot h^{1}$). Midazolam (0.1 $mg \cdot kg^{1}$) i.v. was given as an adjunct to the following 13 patients (dexmedetomidine doses were lower: bolus 1 $mg \cdot kg^{1}$, infusion 0.5–1 $mg \cdot kg^{1} \cdot h^{1}$). Only one patient moved within this group. The mean time to discharge post procedure was 90 min. There were no differences with respect to recovery or discharge times between those who did or did not receive midazolam. No cardiac or respiratory complications were noted. *Conclusions*: The use of dexmedetomidine for MRI sedation by itself was more unpredictable than anticipated from the published case reports of its use.

Commentary:

So, what we have here is a very small retrospective study of dexmedetomidine MRI sedation. Normally we would not include a study such as this in our newsletter, but dexmedetomidine is so "hot" right now that we thought any additional information on its use was interesting. The reports of dex use for procedural sedation are still so few that we are clearly seeing an evolution in its use and an appreciation that doses needed for children undergoing procedures like MRI are significantly higher than that needed for adults. Dr. Keira Mason (from Boston Children's and the author of a previous dex procedural sedation paper) recently lectured at a sedation conference in Boston and reported using significantly larger bolus doses of dex to children in order to obtain reliably sedated states. Stay tuned for more reports from that group. The addition of a small dose of a complementary drug such as midazolam may also be needed. Interestingly, the discharge times are somewhat prolonged, but these times are so dependent on the particular practice of a given institution that it is hard to say much about what this means for the rest of us.