The Anesthetic Management of a Child with ADHD on guanfacine for a Drug-induced Sleep Endoscopy: Is there a dexmedetomidine ceiling effect?

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Case Description:
A 10-year-old boy with Down Syndrome, severe OSA, and ADHD on guanfacine presented for a drug-induced sleep endoscopy. Anesthetic management was complicated by a lack of response to dexmedetomidine despite a high dose infusion, multiple bolus doses, and re-constitution of the medication. In fact, the patient displayed hypertension and tachycardia while remaining awake. The veterinary literature shows a dexmedetomidine ceiling effect(1), which our patient likely experienced due to home alpha-2 agonist therapy. Furthermore, high concentrations of dexmedetomidine actually activate alpha-1 receptors and attenuate sedative effects(2). Sleep-state endoscopy was finally accomplished with conversion to ketamine and propofol.

References: