

Safety and effectiveness of intranasal administration of sedative medications (ketamine, midazolam, or sufentanil) for urgent brief pediatric dental procedures.

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Thirty children presenting to the dental clinic of a pediatric hospital who required brief but urgent dental care, and who could not be satisfactorily examined or treated, were administered one of three medications--ketamine (Ketalar), 3 mg/kg; midazolam (Versed), 0.4 mg/kg; or sufentanil (Sufenta), 1.5 or 1.0 micrograms/kg--intranasally in a randomized, double-blinded protocol. The patients were brought to the day surgery area following appropriate fasting and administered one of the medications diluted in a dose of 0.1 mL/kg normal saline while sitting in a nurse's arms. Cardiorespiratory monitors were applied when tolerated, and the child was placed on the operating room table. Each child was injected locally with up to one dental cartridge of 2% lidocaine with 1:100,000 epinephrine before dental extractions. A sedation score was recorded using a scale where 1 = hysterical/untreatable, 5 = ideal sedation, and 10 = obtunded and desaturated, requiring airway management assistance. Midazolam administration resulted in acceptable sedation (mean score: 4) with no desaturations below 90% as measured by pulse oximetry and a mean recovery room observation time of only 3 +/- 2 min (+/- SD). Ketamine also had a mean sedation score of 4 and a short recovery period (7 +/- 7 min); however, two children experienced brief desaturations. Sufentanil at 1.5 micrograms/kg was noted to produce much more heavily sedated children (mean score 7), with a high incidence of significant oximetry desaturation (80%) and prolonged recovery room duration (58 +/- 40 min). Use of 1.0 microgram/kg sufentanil resulted in no desaturations, less sedation (mean score 4), and a brief recovery time (7 +/- 13 min). (ABSTRACT TRUNCATED AT 250 WORDS)

Subject Headings

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