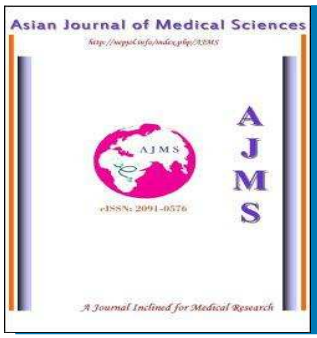

CONSCIOUS SEDATION WITH NITROUS OXIDE- A TECHNIQUE WITH A POTENTIAL AS WIDE AS GENERAL ANESTHESIA ITSELF

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"Various applications of Nitrous-oxide for conscious sedation- a forgotten art!"

Dear Editor,

Conscious sedation (CS) using nitrous oxide for dental procedures is a prevalent technique worldwide.[1] At most places, an anesthetist is kept informed and standing by, to manage the complications of deep sedation if it occurs. The patient benefits from the mild analgesia and anxiolysis that the gas mixture provides, which helps them get over their fear of the needle, while at the same time avoiding the pharmacological side-effects which accompany other anesthetic drugs like benzodiazepines, and opioids. Satisfied after using it for its traditional use for minor dental procedures, we gradually extrapolated its use for other procedures, which are perceived by most patients as being associated with some degree of discomfort. Starting with minor needle procedures like intravenous canulations for all age groups, and drug infusions in pediatric patients, we gradually extended the use of the technique to patients with facial injuries, who required procedures like suturing of clean lacerated wounds under local anesthetic infiltration. For regional nerve blocks of the head and neck region, especially maxillary and mandibular nerve blocks, CS administration helps immensely in keeping the patient comfortable during the block and subsequent surgical procedure. We also utilized the technique before manual relocation of dislocated temporo-mandibular joints, and found it extremely helpful. Encouraged from our experience, we see a wider horizonfor the use ofCS for a variety of procedures like- regional blocks in the block room; before ablative procedures for trigeminal neuralgia; in pain clinics, especially where blocks at multiple levels are required, as in facet blocks for chronic back pain, paravertebral blocks, and also for epidural injections, intra-articular injections, supra-scapular nerve blocks, etc.It has a potential for wide use in pediatric clinics for vaccinations, or intramuscular/ intravenous injections in small children, apart from its present use for pediatric i.v. canulations.[2]

Plastic surgeons can benefit by using it for hair transplant patients, or for Botox injections for therapeutic (eg. Piriformis injection), as well as for cosmetic reasons.Likewise, CS has a major role to play in minor gynecological procedures like taking biopsies, cauterization of warts, or for per-vaginal or colposcopic examination in apprehensive females. The advantage over other anxiolytics shall be the much faster recovery.

Most commercial CS machines [Figure 1] set a limit to the maximum amount of nitrous oxide that can be given (70%), which provides safety. Added to this is the 'master-slave' mechanism where a drop in oxygen pressure causes a drop in the flow of nitrous oxide as well. Meticulous patient selection, adherence to guidelines,[3,4]and being prepared for emergencies shall furtherensure patient safety. With this technique, we see a widely expanded scope of anesthesia services, and alleviation of anxiety, stress, and pain out of every patient's health-care experience. We whole-heartedly encourage the learned readers to use the technique and share their experiences.

Figure 1: A commercial nitrous oxide CS apparatus.

REFERENCES

1. Brunick A, Clark M. Nitrous oxide and oxygen sedation: an update. Dent Assist. 2010; 79: 22-3, 26, 28-30.
2. Ekbom K, Kalman S, Jakobsson J, Marcus C. Efficient intravenous access without distress: a double-blind randomized study of midazolam and nitrous oxide in children and adolescents. Arch Pediatr Adolesc Med. 2011; 165: 785-791.
3. American Society of Anesthesiologists Task Force on Sedation and Analgesia by Non-Anesthesiologists. Practice guidelines for sedation and analgesia by non-anesthesiologists. Anesthesiology. 2002; 96:1004-1017.
4. Rosenberg M; American Dental Association. New guidelines for the use and teaching of general anesthesia and sedation by dentists. J Mass Dent Soc. 2010; 58: 22-27.