

Periodontal status

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Commentary

This paper reports estimates of the periodontal status of US population derived from data from Phase 1 of the Third National Health and Nutrition Examination Survey conducted by the National Institute of Dental Research from 1988-1991. A total of 7,447 dentate individuals 13 years of age and older, representing approximately 160.3 million civilian non-institutionalized Americans, received a periodontal assessment. Measurements of gingival bleeding, gingival recession level, periodontal pocket depth, and calculus were made by dental examiners. Assessments were made at the mesiobuccal and mid-buccal sites of all fully erupted permanent teeth present in two randomly selected quadrants, one maxillary and one mandibular. All data were weighted and standard errors calculated by special software to adjust for the effect of sample design. Although over 90% of persons 13 years of age or older had experienced some clinical loss of attachment (LA), only 15% exhibited more severe destruction (LA > or = 5 mm). Prevalence of moderate and severe LA and gingival recession increased with age, while prevalence of pockets > or = 4 mm or > or = 6 mm did not. These data suggest that the increasing prevalence of LA with age is more associated with increasing prevalence of recession than with changes in the prevalence of pockets or age. The extent or number of affected sites with advanced conditions for loss of attachment, pocket depth, or recession was not large for any age group. Differences in prevalence of moderate and severe loss of attachment, moderate and deep pockets, and recession were found among gender and race-ethnicity groups. Females exhibited better periodontal health than males, and non-Hispanic whites exhibited better periodontal health than either non-Hispanic blacks or Mexican-Americans.

Propranolol/midazolam/ketamine (PMK) for dental procedures in children 3-7 years of age. In this clinical trial, 32 healthy uncooperative children who were candidates for dental treatments under sedation was randomly divided into two groups. Intravenous sedation was induced with PMR in one group and with PMK in the other group. After injection and during procedure BIS index, heart rate and respiratory rate, blood pressure, and oxygen saturation was evaluated every 5 min. After the procedure, recovery time was measured. Data were analyzed with ANOVA, Friedman, Wilcoxon, and t-test.

The BIS value was significantly low in ketamine group ($P = 0.003$) but respiratory rates and heart rates were same in both groups with no statistical difference ($P = 0.884$, $P = 0.775$). The recovery time was significantly shorter in remifentanyl group ($P = 0.008$ and $P = 0.003$). It can be concluded that intravenous sedation technique with PMR combination induces effective and safe sedation, with less pain and more forgetfulness and a shorter recovery time for children 3-7 years of age during dental procedures.

Bi spectral index system (BIS) is a new noninvasive technique for the evaluation of the depth of sedation and may be a proper technique

for evaluation of children undergoing a sedative technique [1]. The electroencephalography (EEG) device reports the waves numerically in a range of 0-100, in which 100 indicate full consciousness and a value between 60 and 90 indicates adequate sedation [2]. These values should be in the range of 40-60 in general anesthesia, 60-70 in profound sedation, and 70-90 in moderate sedation [3]. There are only a few studies available on intravenous sedation of children for dental procedures. Combining medications results in the use of lower doses and the risks associated with medications decrease [4]. A combination of protocol, fentanyl and midazolam resulted in more effective sedation, with shorter recovery, compared to the use of protocol alone [5] and the use of a combination of protocol and remifentanyl was safe, effective, and acceptable. Regarding the, inconsistent results of protocol [6]. Remifentanyl is a new medication and its combination with midazolam increases forgetfulness after the procedure compared to midazolam alone [7]. Further studies are needed to determine the best combination of drugs for sedation in children [8]. The present study was undertaken to evaluate and compare the efficacy of a combination of protocol/midazolam/ketamine (PMK) with that of a combination of protocol/midazolam/remifentanyl (PMR) in sedating children during dental procedures by means of BIS technique. Participants In the present prospective, double-blind clinical trial a total of 32 uncooperative children (one or two negatives based on Frankel behavioral rating scale [9]), aged 3-7, who referred to Department of Hospital Dentistry in Isfahan Dental School selected randomly. The inclusion criteria were healthy children who had no specific systemic disease and were in the category I of the American Society of Anesthesiology. At the time of sedation, children did not have a common cold or any airway problems. Patients with extraction or who needed dental work time more than 45 min were excluded. The sample size in each group was 16 subjects at a significance level of 0.05 and a power of 80% ($\alpha = 0.05$, $\beta = 0.20$), using the below formula. This was estimated to show a six difference in the mean of BIS index between the two groups [8]. Sedation protocols and patient monitoring after obtaining informed consent from the parents, they received the necessary instructions for the sedative procedures. All the patients were asked to refer in the morning, in a fasting state (at least 5 h not to eat by mouth or non per os), for the dental procedures which performed at Department of Hospital Dentistry, Isfahan University of Medical Sciences, Isfahan, Iran. Randomization was carried out as follows: On the day of the procedure each subject was given a code of which only the anesthesiologist was aware. Neither subjects and nor other researchers were aware of codes. Patients were randomly divided into two groups based on the odd or even codes. In the group with even codes, protocol/ midazolam/ketamine were administered intravenously in the following doses: Ketamine (0.5 mg/kg); protocol (0.5 mg/kg); and midazolam (0.01 mg/kg). In the group with odd codes, midazolam/protocol/ remifentanyl were administered intravenously. Comparative evaluation of BIS index after sedation

Dental Research Journal: Midazolam (0.01 mg/kg); protocol (0.5 mg/kg); and remifentanyl were pumped intravenously at (0.1 µg/kg/min). The depth of sedation, BIS, heart rate, the number of respirations, blood pressure, and oxygen saturation percentages were recorded every 5 min by the anesthesiologist. Therefore, a complete monitoring which is essential for general anesthesia or deep sedation was performed for both groups. The conditions for carrying out the procedure were evaluated by another researcher based on the Dental Sedation Teachers Group (DSTG) [10] scale and recorded in special data sheets. At the end of the procedure, each patient was monitored in the recovery room and the time needed for recovery was recorded. After achieving the necessary conditions for being discharged based on the post anesthetic discharge scoring system [11], each patient was discharged based on thorough counseling and provision of a phone number for emergency calls.

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