



imaging is a technique capable to record the natural emitted body's thermal radiation in the infrared part of the electromagnetic spectrum and convert it to a visible thermal image, that are coloured thermal images of temperature distribution of the target where every single pixel is a temperature measurement. It is an ideal tool to monitor emotional status; for example stress and anxiety activate the Autonomic Nervous System due to the "Fight or Flight" response that, in turn, affects blood flow, muscular contraction and variations of cutaneous temperature detectable by a thermal camera.

Methods: Thanks to a thermal camera connected to a PC where a GUI Matlab was developed, two thermal measurements of the face of patients were acquired: during the first measurement at baseline the patient was sitting on the dentist's chair and no stimuli were given. Subsequently a second thermal registration called "visita" was done, during which the dentist carried out the medical examination. On this thermal registration five ROI (Region of Interest) at the level of the nose, hear, cheek, head and chin were considered. The difference of temperature assessed between the ROI at baseline and the ROI of "visita" were correlated to the score of the patient of the Italian version of the MDAS questionnaire for assessing Dental Anxiety, using the Pearson Correlation Coefficient referred to a P-value <0.05 on a sample size of 30 patients.

Results: The Index of Pearson of 0.78 referred to a P-value < 0.05 identified a statistically linear significant correlation between the thermal imaging measurements and the scores of MDAS questionnaire.

Conclusions: The instrument has good capability of objectively identify and quantify the presence of Dental Anxiety. In the future it could be proposed as a new method of diagnosis and management of Dental Anxiety resetting up the GUI Matlab and customizing it on patient's need. It could find many fields of application, for example to understand what exactly causes stress during a dental procedure, to monitor the increase of anxiety in patients at risk, to compare dental procedures in terms of stress and discomfort for the patient and also to evaluate the anxiety of the operator during dental procedure to improve technical support to the dentist.

Complication rates associated with third molar extraction procedures: a systematic review

Della Rocca F.¹, Luciani F.², De Stefano M.³, Vicario D.³, Calabrese L.⁴

¹DMD, Oral and Maxillofacial Surgery, University of Rome "Tor Vergata", Italy

²DMD DDS PhD, Oral surgeon, Oral and Maxillofacial Surgery, University of Rome "Tor Vergata", researcher at Catholic University "Our Lady of Good Counsel", Tirana, Albania

³DMD, Private practitioner

⁴MD DDS, Director and Chief U.O.C. Maxillofacial Surgery, Department of Clinical Science and Translational Medicine, University of Rome "Tor Vergata", Italy

Aim: Over the last two decades, the incidence of major and minor complications associated with oral surgical procedures has drastically declined. The purpose of this review was to report complication rates of third molar extraction procedures.

Methods: We performed an electronic search to identify relevant literature indexed from April 1985 to March 2018 using several online databases (Pubmed, MEDLINE, and the Cochrane Library). Only observational and international studies published in English and investigating the incidence of third-molar-extraction complications were included in this analysis.

Results: A total of 1158 studies were identified. Among them, 13 articles met the inclusion criteria. Overall, 8333 extractions had been performed in 3760 patients. The main complications were: alveolitis in 543 cases (12.3% of extractions, 14.4% of patients); hypoesthesia or paresthesia of inferior alveolar nerve in 61 cases (1.4% of extractions, 1.6% of patients); postoperative infections in 37 cases (0.8% of extractions, 1% of patients); hypoesthesia or paresthesia of lingual nerve in 12 cases (0.3% of extractions, 0.4% of patients). Older age, position of wisdom teeth and presence of systemic comorbidities as diabetes were consistently associated with a higher incidence of peri- and post-procedural complications. Conflicting data still exist with regard to the best antibiotic regimen associated with lower infectious complication rates.

Conclusions: Incidence of third-molar-extraction complications is relatively low, with a declining trend over the last decades. Elderly patients, as well as those with other medical conditions appear to be more prone to complications.

Moreover, there is conflicting evidence with regards to antibiotic prophylaxis. Further research is necessary to identify the risk factors predisposing to complications, as well as provide definitive conclusions regarding the best surgical technique.

Anti-oedematous and anti-inflammatory protocol in surgery of lower third molars: preliminary results of a prospective randomized double blind study

Vasselli M., Camurri Piloni A., Bevilacqua L., Porrelli D., Maglione M.

ASUITS, SC Clinica di Chirurgia Maxillofacciale e Odontostomatologica

Aim: The aim of this clinical study is to evaluate and compare the relative efficacy of two different dosages of

dexamethasone, i.e. 2 and 4 mg injected submucosally to reduce postoperative discomfort, e.g. trismus and oedema after mandibular third molar surgery.

Methods: A prospective randomized double blind study is still being conducted on 150 patients requiring surgical removal of an impacted third molar. Selected patients are divided randomly into three groups of 50 patients each: group I (literature's gold standard) patients received one regimen single dose of 4 mg dexamethasone submucosally, group II (test) received one regimen single dose of 2 mg dexamethasone submucosally, and group III (control group), no dexamethasone was given but only received injection of normal saline submucosally. The drug was administered after the wound closure through silk sutures. Baseline measures were done pre-operatively as inter-incisal mouth opening width and three linear measurements for facial swelling. Each patient was instructed to assume 1 gr paracetamol exclusively. For pain assessing patients were required to take note on a survey form through an VAS scale and the paracetamol capsules amount. The postoperative sequelae were assessed using the same linear measurements on the second and seventh postoperative day. The sutures were removed on the seventh day post-surgery.

Results: As compared to group III, group I showed statistically significant reduction in trismus and swelling whereas no statistically significant difference were found between the group II and group III. The statistical analysis showed that the dexamethasone treatment is more effective on the male gender.

Conclusions: It can be concluded that dexamethasone is effective in curtailing the postoperative oedema and trismus of lower third molar surgery but have negligible analgesic effect, though keeping in mind that is still a work in progress because the sample size is yet to be reached. As no statistically significant difference is found between both the group II (2 mg) and control group, so within the confines of our study, it may be concluded that 4 mg dexamethasone can be given safely to reduce the postoperative edema after the third molar surgery. Due to the gender pattern that has emerged from our statistical analysis, further high-quality study are needed to confirm this findings.

Anatomical and functional study of the retromolar neuro-vascular bundle: surgical implications

Amodio F.¹, Raimondi Lucchetti F.¹, Manacorda M.², Vinci R.³

Department of Dentistry, IRCCS San Raffaele Hospital, Milan, Italy; Oral Surgery Specialization School, Vita -Salute San Raffaele University, Milan, Italy

¹Resident doctor, Oral Surgery Specialization School

²Adjunct Professor, Vita-Salute San Raffaele University

³Director of Oral Surgery Specialization School, Associate Professor, Vita-Salute San Raffaele University

Aim: Retromolar canal is an anatomical structure of the mandible that branches from the mandibular canal behind the third molar and extending to the retromolar foramen in the retromolar fossa. This canal might conduct accessory innervation to the mandibular molars or contain an aberrant buccal nerve. The identification of the retromolar canal has become an issue for the oral surgeons because of its clinical implications during several kind of surgeries such as third molar extraction, mandible branch withdrawal, cystic surgical approach, infrabony neoformations and defects. Aaim of this study was to calculate, through a radiological and statistical analysis, the prevalence of the retromolar canal in Caucasian subjects and to assess the main aspects previously studied in literature, such as type, shape, mono/bilaterality, angulation, height, diameter and distance from the third molar distal surface. Furthermore, histological content of the neurovascular bundle of the retromolar canal was evaluated.

Methods: Two hundred radiographic images obtained through CBCT (NewTom® VGi EVO®, Verona, Italy) were analyzed. The inclusion criteria included only Caucasian patients, with no distinction of sex and age that referred to the Radiology Department of San Raffaele Hospital for radiographic exams concerning the craniofacial district in which the mandibular bone structure was undamaged. Moreover, we reviewed the literature including all the previous studies concerning the radiographic analysis of the retromolar canal made from 2011 to 2019. The images were analyzed by only one operator, using 3Diagnosys® software (3DIEMME®, Cantù, Italy).

Results: Statistical analysis, accomplished through the classical inferential statistics, showed that the retromolar canal was present in 71% of the cases; 40% of those were only on one of the mandibular branches, while in the remaining 31% the retromolar canal was present on both sides. Only 29% of the radiographic images did not show any retromolar canal.

Conclusions: The results suggest that the frequency of the retromolar canal is significant, with a possible relevance in the surgical approach of the mandibular retromolar area. The presence of this canal, properly studied with CBCT, may warn the clinicians about the possibility of an inadequate pre-surgical anesthesia, in addition to a local intra-operative bleeding and post-operative alterations of the symptomatology of the patient in the third molar area.