

TOPICAL REVIEW

Controversy of the third molars

Pitekova L, Satko I

Department of the Oromaxillofacial Surgery, Faculty of Medicine, Comenius University, Bratislava, Slovakia.
 lucia.pitekova@centrum.sk

Abstract: Third molars are teeth that have little functional value and a relatively high rate of associated pain and disease. Their value as a part of the dentition of modern people is dubious. Our aim is to review the evolution, morbidity and complications of the third molars (Ref. 19). Full Text (Free, PDF) www.bmj.sk.
 Key words: evolution, third molars.

The third molars are common source of pain and the cause of perimaxillary inflammation. These teeth can cause complications or trauma to patients who decided not to undergo extraction.

Even though in the last century in stomatology the reduction in oral diseases and the loss of teeth are apparent, the problems with third molars persist.

Evolution of the third molars

Evolution is problematic with various theories, which are still reevaluated on the basis of new genetic discoveries (1). The most widely accepted theory claims that the third molars developed from human ancestors 100 million years ago (2). Human ancestors confronted their environment mainly with their heads while utilisation of front limbs was minimal for other than locomotion purposes. Position of head on the spine rotated backwards, to pose jaws and teeth frontally as the primary position for survival. Teeth were vital tool used mainly for hunting and eating of raw food, fighting with enemies, harvesting and manipulating food. Evolution preferred the development of big third molars with pronounced chewing surfaces, which enabled satisfactory growth of jaws and consequently an advantage of an individual to survive.

The ability to survive in dependence to teeth was reduced few million years ago, when hominids reached an upright position (3). Front limbs were formed to arms and hands which helped in such important abilities as hunting, fighting and harvesting – the tasks that were performed mainly by teeth. Central nervous system was developing last million years and it led to creating defensive and aggressive tools which significantly reduced the utilisation of teeth as tools for survival. The discovery of fire led

to cooking and softening of food and consequently to survival of individuals with the loss of some or even the loss of all teeth. As the result of these dramatic biological and cultural changes, people lowered their dependency on all kinds of teeth, mainly the third molars.

The development of the third molars in bigger jaws of human ancestors has a great contribution as a part of dentition million years ago. In modern mankind the third molars contribute little to chewing ability of dentition. By the time the largeness of jaws was reducing, the room needed for eruption of the third molars was reduced, too. Many patients who left the wisdom teeth intact until adulthood gradually found out that one or more third molars is impacted or is impossible to clean them completely.

Speculations and work made by stomatologists, paleontologists, and other scientists helped to explain evolution changes in largeness, shape and position of the third molars from the past up till today (4, 5). In present population the third molars have higher frequency of polymorphism, malposition, in dental arcus (6, 7). Approximately 65 % of population has at least one impacted third molar until 20 years of age (8) and third molars which erupt are malpositioned in dental arcus and consequently hardly cleaned. These changes are considered to be the result of shortening of jaws during evolution (9, 10).

Prehistorical mankind probably did not suffer from infections associated with impacted third molars as is apparent today (11). While caries and periodontal diseases existed (12), evidence shows that dental pathology was significantly lower (12). Early loss of teeth present in prehistorical men shows that the loss was the result of extreme overload of teeth (14). The third molars could play an important role in lowering of chewing pressure by increasing the space available for chewing.

Close to the end of 17th century mankind experienced a dramatic increase of prevalence of dental diseases as the result of changes in lifestyle and nutrition (11, 15, 16). From that time on until the birth of modern stomatology at the beginning of 20th century, the prevalence of dental diseases was connected not only with the third molars, but also with other dentition. Nowadays,

Department of the Oromaxillofacial Surgery, Faculty of Medicine, Comenius University, Bratislava, Slovakia

Address for correspondence: L. Pitekova, MD, Dept of the Oromaxillofacial Surgery, Faculty of Medicine, Comenius University, Ruzinovska 6, SK-826 06 Bratislava, Slovakia.

in spite of progress in preventive stomatology, the position of the third molars in dental arcus frequently causes difficult care and their frequent impaction exposes patients to degenerative conditions that are not often connected to other types of teeth.

The advisability of extraction of asymptomatic third molars by early preventive surgical extraction is discussed in stomatology for few years. In spite of conference organized by National institute of health in 1979 dealing with extraction of the third molars, the consensus was not reached and that is why the decision whether to extract wisdom teeth or not lays on the experience and subjective decision of the physician. The conference stated impacted third molars an abnormal state. While the advocates of routine surgical extraction believe that an early removal of the third molars avoids potential pathologic degeneration and complication of these teeth later in life, the objectors claim that the risk of pathologic degeneration and complication is lower in comparison to risk of surgical treatment.

It is very difficult to unite the controversy of the third molars which divides stomatologists into two groups. While one group is against routine extraction of asymptomatic third molars (17), on the other hand there are studies which prove higher risk of extraction of the third molars later in life. The most common are periodontal defects on the distal surface of the second molar, lower regeneration ability and worse wound healing (18, 19).

Conclusion

Physicians and patients are familiar with problems and difficulties which may be caused by wisdom teeth. If physicians decide to extract the third molars earlier than potential complication could develop, patients face psychological and physical trauma of some degree resulting from surgery made in low age. If there is decision to leave the wisdom teeth patients face the indefiniteness of the disease and the probability that if the extraction will be necessary, it can be complicated by the higher risk of postoperative complications. Even the possibility of choice does not offer the certainty of desired outcome.

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