

Anterior Crowding and Third Molars a Controversial Association

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During growth and development human beings experience a number of physiological changes characterized by a progressively increased structural size along with the morpho-functional modifications that these changes produce.

In the cranio-facial skeleton, these processes are marked by the growth of the structures that conform it. The process is fast in early stages and slows down with the years. Within the oral cavity, teeth eruption is the most notorious development, conformed by 20 deciduous teeth during childhood and 32 definitive teeth in adolescence, being the last event of this sequence the eruption of the third molars.

Between the 17 and the 25 years the third molars usually erupt into the mouth, their anatomy and position is variable, therefore, there is no pattern that properly defines them. Their presence usually carries more problems than benefits. They are frequently found in abnormal positions, producing discomfort and impeding proper hygiene, restorative procedures and extraction is usually difficult given the difficult access to them by the dentist, which results in common inflammatory complications and cavities in neighboring teeth (Figure 1).

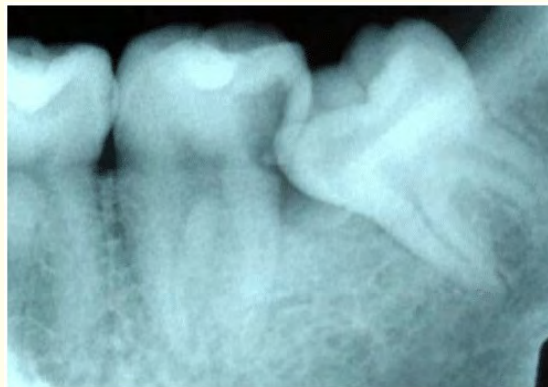


Figure 1: Periapical radiograph in which a distal cavity can be seen in the second lower molar (3.7) due to third molar impaction (3.8).

Historically, Third molars have been to blame for anterior teeth crowding, specially inferior anterior crowding (Figure 2) due to their late development and mesio-inclined position which, allegedly, results in anterior forces to the dental arc, This reasoning justifies carrying the prophylactic extraction of the third molars [1] (Figure 3).



Figure 2: Lower anterior crowding.



Figure 3: Panoramic x-ray showing mesio inclined third molars and lower anterior crowding.

Medical literature on this topic is varied. Studies carried during the 60's proposed there could be an association between third molars eruption and anterior crowding, therefore prophylactic extraction is an somewhat urgent procedure to be executed. Nowadays, the studies are more confounding and contradictory, keeping this topic in the area of debate. Current systematic reviews of the matter conclude that it is not possible to establish with certainty that there exists and a causal relationship between anterior crowding and the eruption of the third molars, due to the contradictory results of primary studies and the high risk of bias they have. Moreover, anterior crowding is considered a malocclusion of multifactorial etiology where varied factors need to be considered, such as the size and periodontal condition of the teeth, skeletal factors, as the occlusion of the patient and the cranio-maxillo-facial growth and development, and general factors, such as race and age [2] (Figure 4).

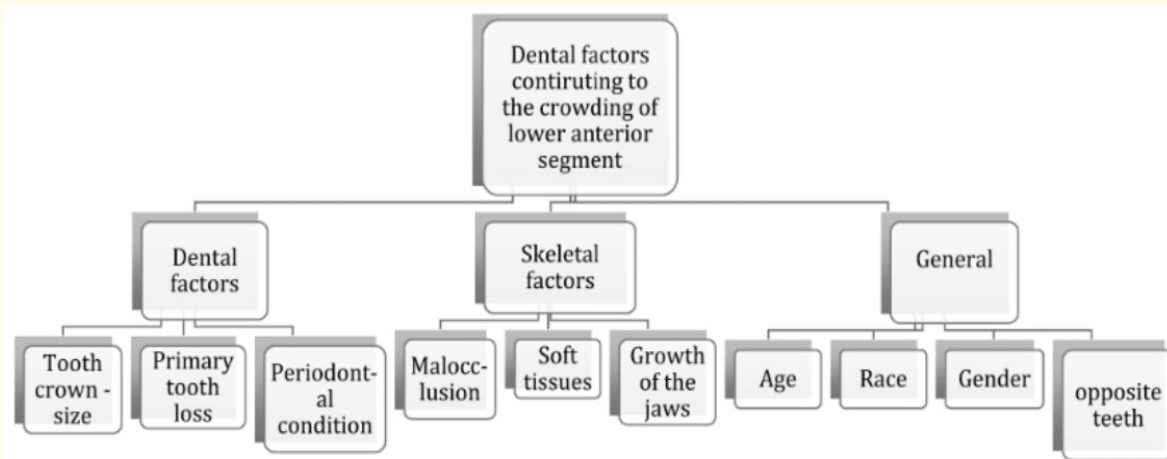


Figure 5: Factors related to lower anterior crowding [2].

In spite of the afore mentioned, if we consider the third molars eruption is causing anterior crowding, the adequate management would be to intervene the patient in early stages to avoid ill positioned teeth, carrying out multiple teeth enucleations in our patients. However, third molar extractions is not a procedure free of complications: inflammation, infection, trismus, pain, paresthesia, among others, and the effects these may bring, such as medication expenses or working days lost. These factors need to be considered at the moment of deciding if a procedure is to be done, therefore it must be fully justified if it is the right indication and timing [3,4].

In the light of all the considerations exposed in this matter, it is hard to consider a causal relationship between anterior teeth crowding and third molars eruption, which indicates that the decision to extract the third molars should be evaluated in a case-to-case basis considering many other factors, not including the possibility of developing malocclusion. Before this, we must educate our patients in the multiple factors that determine the development of anterior teeth crowding and in this way reduce the number of “prophylactic extractions” of the third molars and the complications related to the procedure.

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