

AN AUDIT OF THE PATHOLOGIES ASSOCIATED WITH IMPACTED WISDOM TEETH

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ABSTRACT

The purpose of this study was to find out the types of pathologies that can arise in association with impacted wisdom teeth. Two hundred consecutive patients scheduled for extraction of one or more of their impacted wisdom teeth were evaluated clinically and radiographically. Orthopantomogram (OPG) was the standard radiograph. 194 (97 %) of the teeth were associated with pathologies. Pericoronitis was the most common condition followed by caries, periodontal disease, facial space infections, cyst/tumors and resorption of adjacent second molar. Six (3 %) of the teeth were extracted for orthodontic reasons. Younger patients had acute reversible conditions whereas with increasing age chronic destructive lesions became more prevalent. Retaining impacted teeth can lead to recurrent pericoronal infections and damage to adjacent structures.

Key words: Wisdom teeth, impaction.

INTRODUCTION

Wisdom tooth impaction is a common problem affecting a large proportion of the population. These teeth, owing to their anomalous development, peculiar topography, location and angulation are potential sources of a number of pathologies in and around the oral cavity'. These pathologies may range from simple pericoronitis to serious and, at times, life threatening infections of the head and neck facial spaces^{2,3}. They may damage their adjacent teeth, weaken the mandibular angle and may be responsible for cystic and tumorous lesions^{4,5,6}. In addition, these teeth have been implicated in the etiology of lower arch crowding, temporomandibular joint disorders, neuralgias and vague orofacial pains^{1,7}.

Surveys and studies on different aspects of impacted wisdom teeth are routinely carried out at most Oral & Maxillofacial Surgery centers all over the

world. In Pakistan, however few organized studies are available on this subject. This study was aimed at collecting information about the pathologies arising in association with impacted wisdom teeth in a Pakistani population.

MATERIALS & METHODS

This study was conducted at the Oral & Maxillofacial Surgery Department, de, Montmorency College of Dentistry, Lahore from first July, 2000 to 31 December, 2000. Two hundred patients, both males and females, scheduled for extraction of one or more of their impacted wisdom teeth were included in this study. They were divided into groups according to age (< 20 years, 21-25 years, 26-30 years, 31-35 years, 36-40 years, 41-45 years, 46 —50 years and > 50 years). All these patients were examined clinically and radiographically. Orthopantomogram (OPG) was the standard radiograph. Where finer details were needed,

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destructive lesions were more common in older individuals. Six (3 %) of the wisdom teeth were removed to facilitate orthodontic treatment of the lower arch. These were the only teeth not associated with any signs symptoms or pathologies. No teeth were removed prophylactically to prevent diseases or pathologies in the future.

DISCUSSION

Wisdom tooth impaction is a pathological condition in itself and it, in turn, is responsible for a number of pathologies in and around the oral cavity. This study was intended to document the types and frequency of pathologies arising in association with impacted wisdom teeth.

Two hundred patients were studied clinically and radiographically. The most common age at presentation was 21-25 years (25 %) followed by 26-30 years (19 %). This is in accordance with Brickley & Shepherd, Lysel & Rohlin, Worell et al and other studies^{8,9,10}. Contrary to these studies, however, a higher percentage of patients (22.5 %) were older than 40 years. This shows that our patients retain their wisdom teeth into middle and older age more frequently than people in developed countries.

Pericoronitis was the most common pathology, accounting for 53% of the cases. Brickley & Shepherd have reported pericoronitis as indication for third molar extraction in 30.4% cases, Lysel & Rohlin in 32% cases and Worrall et al in 39.5% of their patients^{8,9,10}. In 85 % of the patients the pericoronal infection was a recurrent problem. Forty two percent had experienced one, 15 % two and 30 % more than two previous episode of the same condition. Venta et al have also emphasized the recurrent nature of this condition¹¹. In their study 51 % of the patients had previous episodes of pain, swelling or other problems with the same tooth.

Caries / pulpitis was the second most common pathology necessitating extraction of the wisdom teeth. The third molar itself was involved in 10 % of the cases and the adjacent second molar in 17 % of the cases. The third molar is thus not only itself prone to caries but its defective contact with the second molar poses an even greater threat to the health and integrity of this tooth. Many times, therefore a healthy and functional tooth is

lost due to retention of an impacted and nonfunctional third molar. Caries / pulpitis was the cause of third molar extraction in 2 % cases in Chiapasco et al study, 3.9 % cases in Brickley & Shepherd study and 13% cases in Lysel & Rohlin study^{8,9,12}.

In 10% of the patients the third molar was extracted due to food packing, deep pocketing and periodontal disease. This corresponds favorably with the 3-10% periodontal reasons for third molar extraction reported in other studies.

If not managed properly, infections of third molar origin may spread to the adjacent buccal, submandibular, sublingual and other facial spaces. In this study 6% patients presented with facial space infections. In all these cases previous pericoronal / periapical infection were either ignored by the patient or mismanaged and the third molar allowed to remain in situ. In one patient the condition was severe enough to necessitate hospitalization (high grade fever, respiratory distress and severe trismus). Early attention and timely extraction of the 3rd molar might have prevented these serious complications.

One (0.5 %) of the third molar was extracted due to root resorption of the adjacent second molar. In another patient (0.5 %) the impacted tooth was associated with a multilocular ameloblastoma. This is in accordance with the 0.4% to 2% incidence reported by Guven et al and Wears et al, respectively^{6,13}.

Six (3 %) of the third molars were removed according to the advice of the orthodontist. Chiapasco et al have reported 23.3 %, Lysel and Rohlin 14 %, Bruce et al 12 % and Nordenram et al 11 % of the third molars being extracted for orthodontic reasons^{9,12,14,15}.

The higher incidence of pathologies reported in this study demonstrates the cost that has to be paid for neglecting impacted wisdom teeth. The fact that fewer third molars are extracted prophylactically in our society is apparently the main reason for the higher rate of pathologies. Furthermore, ignoring or mismanaging minor problems like pericoronitis allows time for irreversible damage to the regional periodontium and the adjacent teeth.

While the results of this study cannot be taken as evidence supporting prophylactic extraction of all the impacted third molars, the fact is indisputable that

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While the results of this study cannot be taken as evidence supporting prophylactic extraction of all the impacted third molars, the fact is indisputable that

timely extraction of many of these teeth might save the patient much trouble and prevent irreversible damage to their adjacent structures. Selective extraction of third molars at high risk of developing pathologies prophylactically thus seems to be a prudent strategy in majority of the cases.

CONCLUSION

Pericoronitis, caries, periodontal disease and facial space infections are common pathologies arising in association with impacted wisdom teeth. Timely extraction of these teeth is recommended to prevent recurrent infections and irreversible damage to the adjacent structures.

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