

THIRD MOLAR POSITION AS PREDISPOSING FACTOR FOR MANDIBLE ANGLE FRACTURE

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ABSTRACT

The aim of the study was to assess the position of 3rd molar as a predisposing factor in the fracture of the mandible at the angle. Age and sex distribution was also studied.

Out of 125 mandibular fractures at the angle, during a study from 1991-97 at Khyber College of Dentistry, Peshawar, 108 (86.4%) cases had 3rd molar present while in 17(13.6%) cases it was absent. In 108 angle fractures, 23(18.4%) were fully erupted, 42(33.6%) were partially vertically erupted, 3(2.4%) were partially erupted distoangular, 15(12%) partially erupted mesioangular, 13(10.4%) were unerupted vertically, 7(5.6%) were unerupted mesioangular and 5(4%) were unerupted horizontally. High prevalence was seen in the third decade i.e.46%. Male to female ratio was 4:1.

Key words: *Third molar, various positions, Mandible angle fracture.*

INTRODUCTION

Third molars are the last to erupt in the permanent teeth series. These teeth are the most vulnerable to be impacted.¹ They occupy different positions and angulations in relation to anterior border of ramus and occlusal level of the second molar.² Mandibular third molars produce complications, like infection, pain, malocclusion and are a weakening point to produce fracture at the angle³, when not fully erupted. Fracture at the angle of the mandible with a tooth in the line of fracture are more likely to become infected than at other sites⁴. The relation of the third molar with weakening of angle mandible has been proved by the study of Ueno et al.⁵ Rietzik et al in comparative study conclude that unerupted third molars are more significant in fracture of angle of mandible than the erupted third molar.⁶ Sinn et al reported that impacted and submerged third molar decreases the amount of support and weaken the angle of the mandible for the fracture to occur along the socket of the impacted tooth and extends inferiorly through the mandibular angle, that is why angle is involved in 35% of the total maxillofacial injuries.⁷

METHODOLOGY

This study was carried out in the Department of Oral and maxillofacial surgery at Khyber College of Dentistry during 1991-97. 125 individuals with mandible fracture at the angle were included in the study. Children below 12 years and those who did not give consent to be included in the study were excluded. The diagnostic criteria was clinical examination and different views of extra oral and intra oral radiographs i.e. orthopantomogram, posteroanterior view, mandibular occlusal view. SPSS version 13 was used for the data results calculation. Frequencies, percentages for the data were calculated.

RESULTS

Out 125 patients with mandible fracture, 108 (86.4%) had third molar present while in 17 (13.6%) cases that was not the case. Table 1 shows third molar presence/absence in the angular fracture of mandible. Fig 1 shows sex distribution details. Fig 2 provides details about the state of eruption and angulations of third molar.

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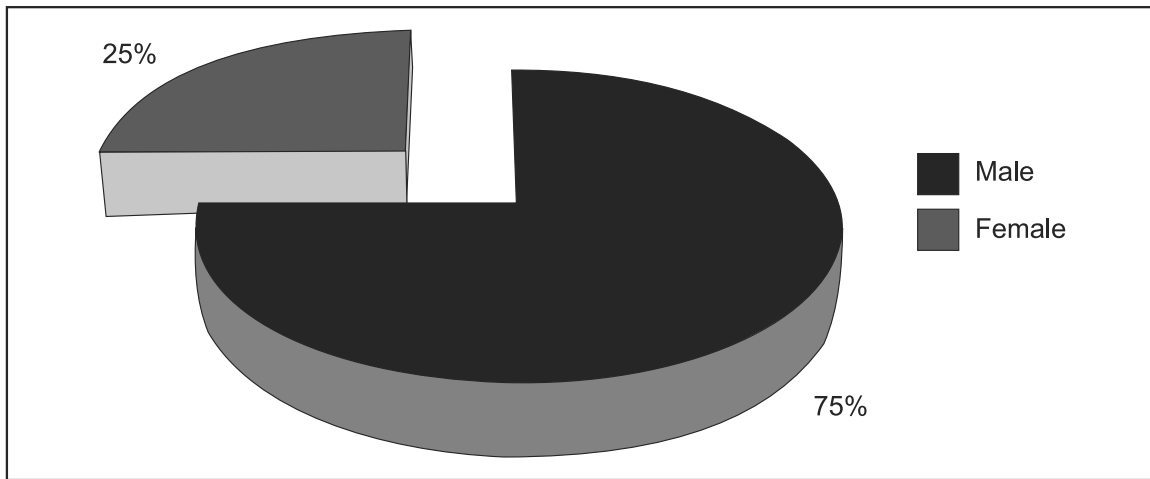


Fig 1: Sex distribution among patients having 3rd molar

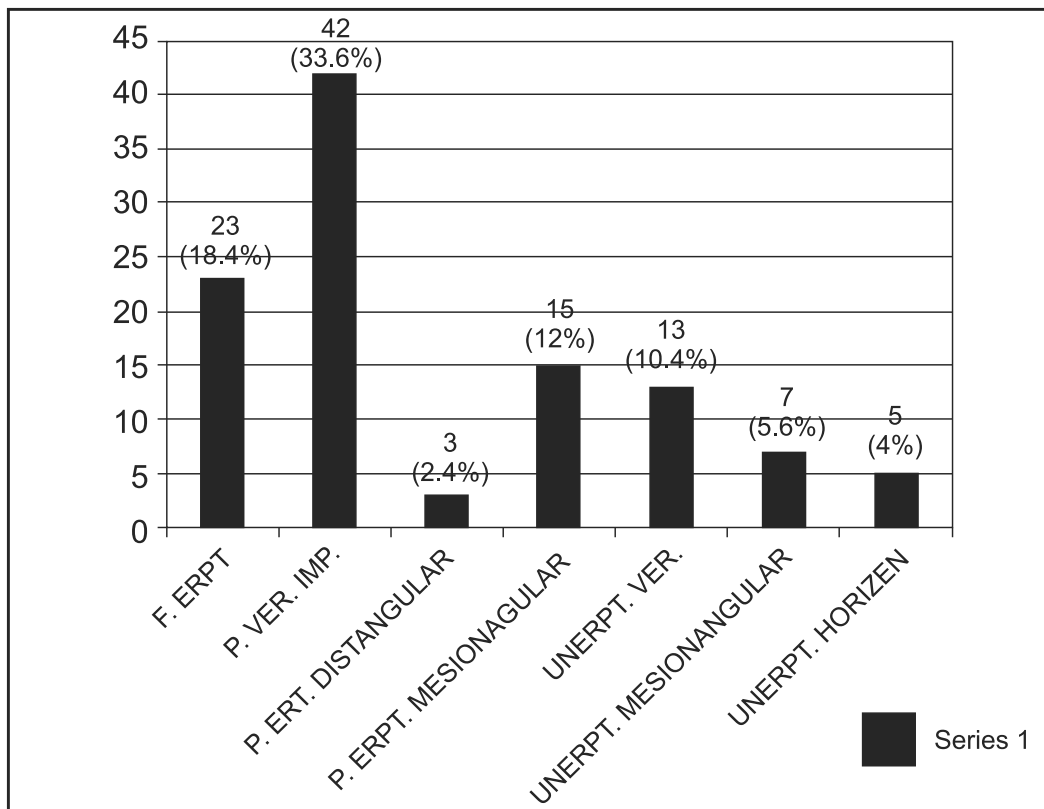


Fig 2: State of eruption and angulation of 3rd Molar

TABLE 1: NUMBER OF THIRD MOLAR PRESENCE/ABSENCE IN ANGULAR FRACTURE OF MANDIBLE

Presence/absence 3 rd molar	Number of cases	Percent-age
3 rd molar present	108	86.4%
3 rd molar absent	17	13.6%
TOTAL	125	100

DISCUSSION

Meta analysis shows that mandible fracture at the angle most frequently occur in the 3rd decade, 70% patients were 30 years or younger^{8,9,10,11,12,13,14,15}. 35% of the fractures at the angle of mandible prevail in the age range 20-29 years.² Retzeik et al did the experiment on the monkey mandible and compared the forces necessary to fracture the angle region where the third molar

was unerupted with those having erupted third molars. They illustrated that the presence of the third molar significantly weakened the angle region⁷. Sinn et al reported that bilaterally impacted and submerged third molar decreases the amount of support and weaken the angle of the mandible for the fracture to occur along the socket of the impacted tooth and extends inferiorly through the mandibular angle that is why the angle is involved in 35% of the total maxillofacial injuries.⁷ The relation of the third molar with weakening of the angle mandible has been proved by the study of Ueno et al.⁵ This study shows that 86.4% angle fractures were associated with the presence of third molars.

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