

Original Article

Assessment of Complications Occurring After Removal of Third Molars- A Retrospective Study

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ABSTRACT:

Background: The removal of impacted mandibular third molars is usually a planned surgical procedure. The present study was conducted to determine complications arising from impacted third molar extractions. **Materials & Methods:** The present retrospective study was conducted on 264 cases (males- 154, females- 110) with impacted mandibular third molar. All patients were given a follow-up appointment 1 week after surgery for suture removal and examination for the presence of wound infection and other complications. **Results:** Mean age in males was 22.5 years and in females was 21.4 years. Type of impaction was mesio- angular in males (74) and females (52), disto- angular in males (33) and females (36), vertical in males (22) and females (14), horizontal in males (25) and females (8). The difference was significant ($P < 0.05$). 44 males and 38 females had complications. The difference was non- significant ($P > 0.05$). The most common complication was infection seen in 16 males and 17 females, dry socket in 18 males and 12 females, hemorrhage in 3 males and 4 females and dysesthesia in 7 males and 5 females. The difference was non- significant ($P > 0.05$). **Conclusion:** Third molar extraction is frequently encountered surgical procedure. Complications such as dry socket, infection, hemorrhage are common.

Key words: Dysesthesia, infection, third molar.

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INTRODUCTION

The removal of impacted mandibular third molars is usually a planned surgical procedure, after which a moderate to severe pain occurs within 1 to 3 hours after the operation, requiring the use of analgesics. This type of surgical procedures is used as a pain model for the introduction of new analgesics and analgesic techniques in the postoperative period.¹

Since the impacted third molars might ultimately be extracted, any associated adverse effects would become a disconcerting, troublesome issue for both dentists and patients. Periodontal defect formation often causes plaque accumulation and further local inflammatory disease. Therefore, consideration should be given to minimizing tissue damage around the surgical area.

Some oral and maxillofacial surgeons advocate the routine use of prophylactic systemic antibiotics to decrease the risk

of postoperative infection and complications. However, there are studies showing no difference in postoperative complications between patients who received postoperative antibiotics and patients who did not.²

The increasing frequency of surgical extraction of impacted mandibular third molars has been well documented. Complications invariably occur with any surgical procedure, and the frequency of complications can be expected to parallel the frequency of surgery. Prevention of complications is the keystone of quality care, however, and the rate of complications must remain low. In addition, the oral and maxillofacial surgeon must be able to inform the patient, preoperatively, of the statistical likelihood of complications, so that the patient may make a reasonable judgment whether to undergo surgery, especially for elective procedures.³ The present study was conducted to

determine complications arising from impacted third molar extractions.

MATERIALS & METHODS

The present retrospective study was conducted in the department of Oral surgery. It comprised of 264 cases (males- 154, females- 110) with impacted mandibular third molar. All information such as name, age, gender etc. was retrieved from departmental record. Ethical clearance was obtained prior to the study.

All cases were done with surgical extraction performed under L.A. In every case, 1 ml of lignocaine with 1: 150000

adrenaline was administered. All steps were performed following standardized surgical procedure. Care was taken to avoid excessive damage to adjacent tissue. Following extraction, all patients were prescribed cap amoxicillin 500 mg three times for 3 days and nonsteroidal anti-inflammatory drug such as diclofenac sodium 50 mg TDS for 3 days. All patients were given a follow-up appointment 1 week after surgery for suture removal and examination for the presence of wound infection and other complications. Results thus obtained were subjected to statistical analysis using chi- square test. P value less than 0.05 was considered significant.

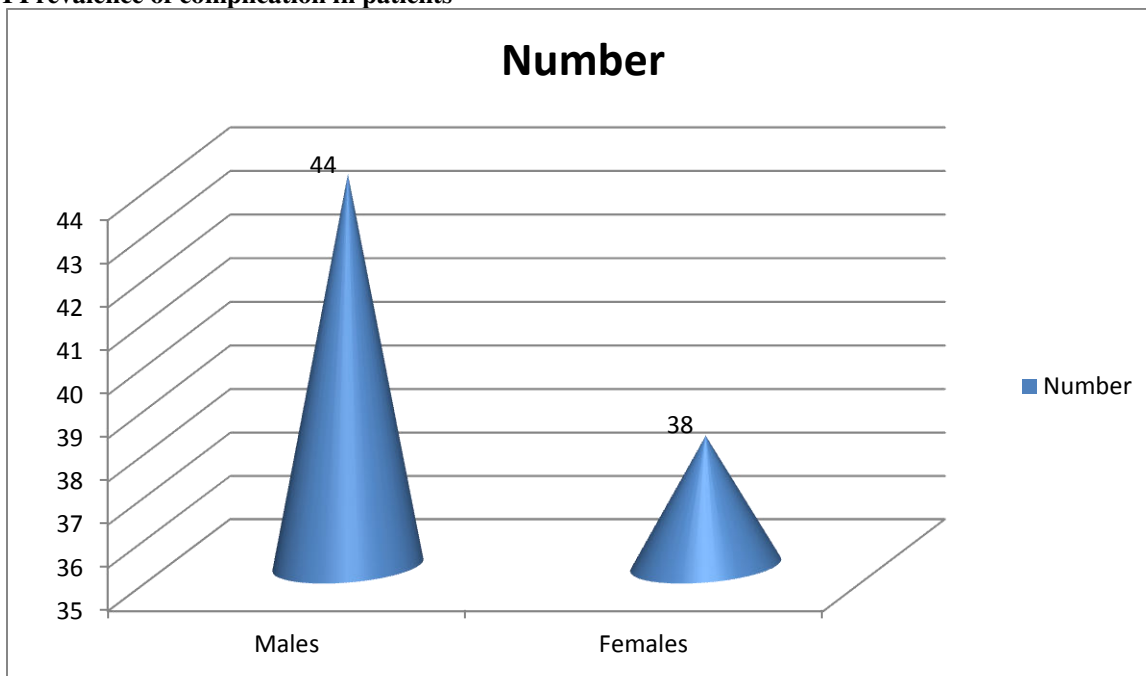
RESULTS

Table I Parameters in patients

Parameters	Males	Females	P value
Mean age	22.5 years	21.4 years	0.5
Types of impaction			
Mesio- angular	74	52	0.01
Disto- angular	33	36	
Vertical	22	14	
Horizontal	25	8	

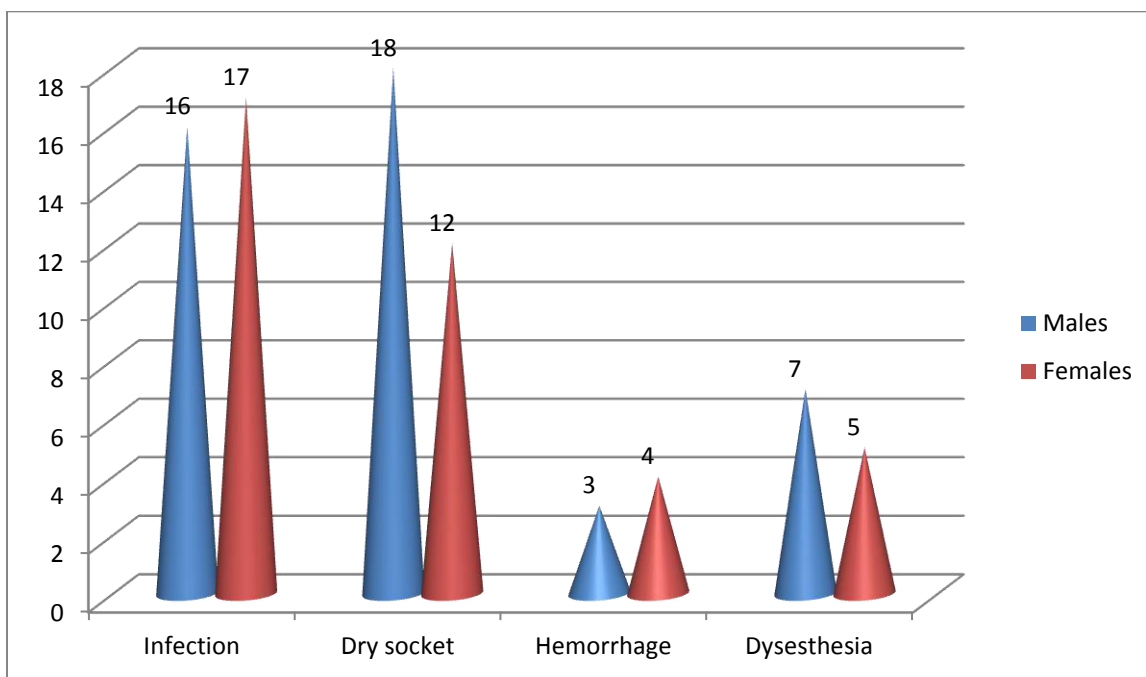
Table I shows that mean age in males was 22.5 years and in females was 21.4 years. Type of impaction was mesio- angular in males (74) and females (52), disto- angular in males (33) and females (36), vertical in males (22) and females (14), horizontal in males (25) and females (8). The difference was significant (P< 0.05).

Graph I Prevalence of complication in patients



Graph I shows that 44 males and 38 females had complications. The difference was non- significant (P> 0.05).

Graph II Types of complications in patients



Graph II shows that most common complication was infection seen in 16 males and 17 females, dry socket in 18 males and 12 females, hemorrhage in 3 males and 4 females and dysesthesia in 7 males and 5 females. The difference was non-significant ($P > 0.05$).

DISCUSSION

Chuang et al. suggested that patients over the age of 25 years were more likely to have complications associated with third molar surgery even after controlling for other potential confounding factors such as a preexisting periodontal condition, or more difficult third molar anatomy. Other complications such as alveolar osteitis and sensory dysfunction were observed to occur with high incidence. Many studies of incidence of osteitis have had a plethora of operators of varying experience performing a variety of extraction techniques.⁴

An important factor that influences postoperative complications is the degree of impaction; partially impacted teeth showed the highest degree of complications. Most infections (pericoronitis) occur in partially erupted teeth. The higher bacterial load could be the reason for the increased incidence of dry socket. Al-Khateeb et al⁵, reported the incidence of dry socket in the presence of caries or infection as 21.9%, compared to 7.1% without any symptoms.

In present study, mean age in males was 22.5 years and in females was 21.4 years. Type of impaction was mesio-angular in males (74) and females (52), disto-angular in males (33) and females (36), vertical in males (22) and females (14), horizontal in males (25) and females (8). This is in agreement with Sharma et al.⁶

Devorah et al⁷ found that the overall prevalence of postsurgical complications was 17%. Dry sockets showed the highest incidence (11.6%). Partially impacted teeth showed the highest incidence of complications (67.3%). Cigarette smoking correlated with increased complications and dry sockets, and complications were more prevalent on the left side (62.8%). Complications after mandibular third molar extraction increase with age, level of impaction, side of extraction and cigarette smoking.

The most common complication was infection seen in 16 males and 17 females, dry socket in 18 males and 12 females, hemorrhage in 3 males and 4 females and dysesthesia in 7 males and 5 females. Mortan et al⁸ found that Surgery was performed for 125 patients in the hospital, whereas 177 underwent extractions in the dental office. Thirty-five complications occurred in 33 patients, 22 complications occurred in patients who had been symptomatic preoperatively, and 13 complications occurred in patients whose third molars had been asymptomatic.

Of the 130 surgical removals, 110 in 90 patients met the inclusion criterion of nonuse of antibiotics. Fifty-nine were female and the remaining 31 were male. Average age was 25.2 years.

Of the 110 surgeries, postoperative infection occurred in 6 (5.5%). Other complications were alveolar osteitis (8.2%), pain lasting more than 1 week (4.3%) and sensory

dysfunction of the inferior alveolar nerve. In addition to the surgeon's skill, difficulty of extraction may also affect the incidence of complications. The dominant hand of the surgeon (DSA) is right; it is also reasonable to assume that most surgeons are right handed. Therefore, extractions on the left side might be more difficult to visualize and perform, which could account for a higher complication rate.⁹

CONCLUSION

Third molar extraction is frequently encountered surgical procedure. Complications such as dry socket, infection, hemorrhage are common.

REFERENCES

1. Marciani RD. Complications of third molar surgery and their management. *Atlas Oral Maxillofac Surg Clin North Am* 2012; 20: 233–251.
2. Ramos E, Santamaria J, Santamaria G, Barbier L, Arteagoitia I. Do systemic antibiotics prevent dry socket and infection after third molar extraction? A systematic review and meta-analysis. *Oral Surg Oral Med Oral Pathol Oral Radiol* 2016; 122: 403–425.
3. Marcussen KB, Laulund AS, Jorgensen HL, Pinholt EM. A systematic review on effect of single-dose preoperative antibiotics at surgical osteotomy extraction of lower third molars. *J Oral Maxillofac Surg* 2016; 74: 693–703.
4. Brook I. Antimicrobials therapy of anaerobic infections. *J Chemother* 2016; 28: 143–150.
5. Al- khateeb, Ingham HR, Hood FJ, Bradnum P, Tharagonnet D, Selkon JB. Metronidazole compared with penicillin in the treatment of acute dental infections. *Br J Oral Surg* 1977;14: 264–269.
6. Sharma, Leung WK, Theilade E, Comfort MB, Lim PL. Microbiology of the pericoronar pouch in mandibular third molar pericoronitis. *Oral Microbiol Immunol* 1993; 8: 306–312.
7. Devorah, Tolstunov L. Influence of immediate post-extraction socket irrigation on development of alveolar osteitis after mandibular third molar removal: a prospective split-mouth study, preliminary report. *Br Dent J* 2012; 213: 597–601.
8. Chapnick P, Diamond LH. A review of dry socket: a double-blind study on the effectiveness of clindamycin in reducing the incidence of dry socket. *J Can Dent Assoc* 1992; 58: 43–52.
9. Phillips C, White RP Jr, Shugars DA, Zhou X. Risk factors associated with prolonged recovery and delayed healing after third molar surgery. *J Oral Maxillofac Surg* 2003; 61: 1436–1448.

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