



Evaluation of Records of Oral and Maxillofacial Surgery Cases Reported at Abbasi Shaheed Hospital and Karachi Medical and Dental College, Pakistan

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Significance:

Over the globe, healthcare institutions use various methods to measure their efficiency and identify improvement opportunities. Medical and surgical record contain all details of patient complaint, detailed history, investigations, diagnosis and treatment along with follow up. Current audit report is based on medical records of Oral and Maxillofacial Surgery Department of Abbasi Shaheed Hospital and Outpatient Oral Surgery Department of Karachi Medical and Dental College.

ABSTRACT

Background: Oral and Maxillofacial Surgery department is a diverse field in dentistry. Record maintenance has been established as one of the key factors in the success and integrity of health care institutes.

Objective: The objective of the study was to evaluate the records of oral and maxillofacial surgery cases reported to oral and maxillofacial surgery department, Abbasi Shaheed Hospital and oral surgery OPD of Karachi Medical and Dental College.

Methods: Cross sectional study was conducted in at ASH and KMDC from July 2019 to September 2019. The data from January 2017 to July 2019 was retrospectively noted through electronic surgical record of ASH and records of the Oral Surgery OPD of KMDC. Inclusion criteria was patients records of both genders of 5–70 years age, having complaint of any oral or dental pathology or pathologies, trauma and impactions. Data was calculated manually by calculating frequencies and percentages for the trauma, impaction and pathology cases of patients.

Results: In 2017, 239 cases were treated under general anesthesia from which trauma 11.45% (n=11), followed by 48.11% (n=115) cases of oral pathologies, total 11.7% (n=28) cases of complicated exodontias. In 2018, among 211, 51.1% (n=108) cases were trauma followed by 39.3% (n=83) cases of oral pathologies, whereas, total 9.4% (n=20) complicated exodontias cases were observed. During 2019 (January to July), 168 cases 36.2% (n=62) cases were diagnosed as trauma, in oral pathology, overall 36.2% (n=62) cases

were surgically excised. Total 23.2% (n=39) complicated exodontias. In 2017, 25122 cases were reported in Surgery OPD of Karachi Medical and Dental College. Total 36.2% (n=9097) teeth were extracted from which 1.93% (n=486) cases were surgical impaction. On the other hand, 1.65% (n=416) patients were treated through minor oral surgeries. In 2018, 29008 cases were reported in Surgery OPD. Total 42.7% (n=12377) teeth were extracted from which 0.92% (n=268) cases were surgical impaction. On the other hand, 0.71% (n=208) patients were treated through minor surgeries. In 2019, January till July 13028 cases were reported in Surgery OPD. Total 42.6% (n=5559) teeth were extracted from which 0.66% (n=87) cases were surgical impaction. On the other hand, 0.68% (n=89) patients were treated through minor surgeries.

Conclusion: It has been concluded that evaluation of the records of oral and maxillofacial surgery cases reported to oral and maxillofacial surgery department, Abbasi Shaheed Hospital and oral surgery OPD of Karachi Medical and Dental College were high and appropriate measures should be taken in order to manage these problems timely and effectively.

Introduction:

Oral and maxillofacial surgery (OMFS) is a highly diversified specialty of dentistry. As it involves dealing with minor and major surgical operations therefore it is challenging and demanding specialty. (1) Success of any surgery depends on many factors which may include various patient and surgeon factors. There are many diseases which are associated with high rate of recurrence. Therefore, the importance of having and maintain patient record can never be neglected. (2) Over the globe, many healthcare departments use various methods to measure their efficiency to identify improvement opportunities. A medical and surgical record contain all details of patient complaint detailed history, investigations, diagnosis and treatment along with follow up. (3, 4) According to Huffman 2001, a medical record answers all the "W" questions of a patient, for example it provides you the complete description of who, when, why, where and how patient get treatment during hospitalization. Different scholars like Adeleke in 2014, Szanja in 1996 and Terry 2015 stated main purposes of medical record. According to

them medical record significantly helps in the communication of physicians and patients, it talks about the patient health, used for evaluation of patient's life, for research and for health statistics. (5, 6)

In Pakistan, many hospitals have revolutionized the record keeping system. (7, 8) In Pakistan, Khyber College of Dentistry published their two years audit report of their medical and surgical records of oral and maxillofacial surgery department in which they examined 2764 patients in a year i.e., from January 2006 till December 2007. They also reported that males encountered more maxillofacial trauma than females. (9, 10) After in the depth search of data no has been published which collectively evaluated the records of oral and maxillofacial surgery cases in Karachi. Therefore, this study was planned to evaluate and report cases done in general anesthesia and procedures done under local anesthesia under the Operation theater (OT) and Oral and Maxillofacial surgery (OMFS) OPD of Abbasi Shaheed Hospital (ASH) and outpatient oral Surgery department of Karachi Medical and Dental College (KMDC) respectively.

Methods:

The cross-sectional study was conducted at ASH and KMDC from July 2019 to September 2019. The data from January 2017 to July 2019 was retrospectively noted through electronic surgical record of ASH and records of the Oral Surgery OPD of KMDC and include all patients fulfilled the inclusion criteria. The inclusion criteria were patients records of both genders of 5–70 years age selected from OMFS OT of ASH and Oral Surgery OPD of KMDC having complaint of any oral

or dental pathology or pathologies, trauma and impactions. The exclusion criteria were patients with incomplete record and missing findings. The non-probability convenience sampling was used to recruit the data. The study population consist of patients referred to the OPD of OMFS, ASH required general anesthesia and acquired G/A fitness, and OMFS trauma, pathologies and impactions cases from Oral Surgery OPD of KMDC. Researchers of the study collects the data during study period had taken prior verbal permission from the hospital administration to provide access to the computerized medical records. Patient confidentiality and anonymity were maintained throughout the data collection procedure. Researchers recorded the findings on predesigned proforma. Data was analysed in Microsoft Excel (2016) by calculating frequencies and percentages for the trauma, impaction and pathology cases of patients.

Results

The results of 2017 indicated that 239 cases were treated under general anesthesia in O.T of OMFS at Abbasi Shaheed Hospital. Among them 40.1% (n=96) cases were diagnosed as trauma incident in which patients reported injuries in maxillofacial areas. Maximum number of cases of trauma was treated in the month of July about 11.45% (n=11). Overall 48.11% (n=115) cases of oral pathology were surgically excised and specimen was sent to laboratories for histopathology; out of which maximum cases were sent i.e., 10.4 % (n=12) in the month of July. Whereas, total 11.7% (n=28) complicated exodontias cases were observed in which 3rd molar tooth extraction was done

Table 1: Showing and Comparing data of different O.T cases of OMFS in 2017 and 2018 at Abbasi Shaheed Hospital

| Month | Trauma | | Pathology | | Extractions/ Impaction | | Total no. of Cases | |
|-----------|------------|------------|------------|------------|------------------------|------------|--------------------|------------|
| | 2017 % (n) | 2018 % (n) | 2017 % (n) | 2018 % (n) | 2017 % (n) | 2018 % (n) | 2017 % (n) | 2018 % (n) |
| January | 10.4(10) | 7.4(8) | 7.8(9) | 7.2(6) | 3.5(1) | 15(3) | 8.3(20) | 8.0(17) |
| February | 10.4(10) | 8.3(9) | 10.4(12) | 7.4(8) | 10.7(3) | 15(3) | 10.4(25) | 9.4(20) |
| March | 7.2(7) | 7.4(8) | 10.4(12) | 4.6(5) | 14.2(4) | 10(2) | 9.6(23) | 7.1(15) |
| April | 3.1(3) | 12.9(14) | 7.8(9) | 7.2(6) | 14.2(4) | 10(2) | 6.6(16) | 10.4(22) |
| May | 9.3(9) | 8.3(9) | 6.08(7) | 4.8(4) | 7.1(2) | 5(1) | 7.5(18) | 6.6(14) |
| June | 8.3(8) | 6.4(7) | 6.9(8) | 6.02(5) | 7.1(2) | 0(0) | 7.5(18) | 5.5(12) |
| July | 11.45(11) | 9.2(10) | 10.4(12) | 8.4(7) | 10.7(3) | 5(1) | 10.8(26) | 8.5(18) |
| August | 5.2(5) | 6.4(7) | 7.8(9) | 7.4(8) | 3.5(1) | 10(2) | 6.2(15) | 8.05(17) |
| September | 8.3(8) | 8.3(9) | 4.3(5) | 12.4(10) | 10.7(3) | 15(3) | 6.6(16) | 10.4(22) |
| October | 10.4(10) | 5.5(6) | 7.8(9) | 7.4(8) | 0(0) | 5(1) | 7.9(19) | 7.1(15) |
| November | 6.2(6) | 10.1(11) | 10.4(12) | 8.4(7) | 7.1(2) | 0(0) | 8.3(20) | 8.5(18) |
| December | 9.3(9) | 9.2(10) | 9.5(11) | 10.8(9) | 10.7(3) | 10(2) | 9.2(22) | 9.9(21) |
| Total | 40.1(96) | 51.1(108) | 48.11(115) | 39.3(83) | 11.7(28) | 9.4(20) | 239 | 211 |

under general anesthesia. Majority cases 14.2% (n=4) were operated in the month of March and April. In total, maximum

maximum number of OT cases were performed in the month of April and September 10.4 % (n=22) under general anesthesia in O.T of OMFS (Table I).

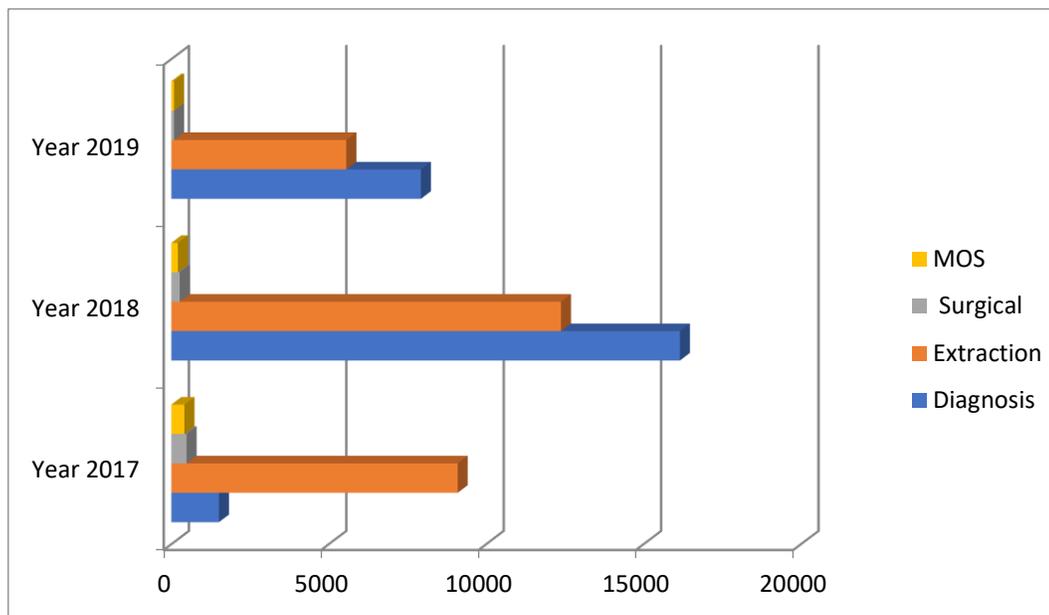


Figure 1: 3 years comparative graph of KMDC OPD

number of OT cases were treated in the month of July 10.8 % (n=26) under general anesthesia in O.T of OMFS (Table 1).

In the year 2018, 211 cases were treated under general anesthesia in O.T of OMFS at Abbasi Shaheed Hospital. Among them 51.1% (n=108) cases were diagnosed as trauma incident in which patient get injuries on maxillofacial area. Maximum number cases of trauma was treated in the month of April about 12.9% (n=14). Overall 39.3% (n=83) cases of oral pathology were surgically excised and specimen was sent to laboratories for histopathology out of which maximum cases were sent i.e. 12.4 % (n=10) in the month of September. Whereas, total 9.4% (n=20) complicated exodontias cases were observed in which 3rd molar tooth extraction was done under general anesthesia. Majority cases 15% (n=3) were operated in the month of January, February and September. In total,

During 2019 (January to July), 168 cases were treated under general anesthesia in O.T of OMFS in Abbasi Shaheed Hospital. Among them, 36.2% (n=62) cases were diagnosed as trauma incident in which patients reported injuries in maxillofacial areas. Maximum number of cases of trauma were treated in the month of January and June i.e., 19.3% (n=12). In oral pathology, overall 36.2% (n=62) cases were surgically excised and specimen was sent to laboratories for histopathology out of which maximum cases were sent i.e. 24.1% (n=15) in the month of January. Whereas, total 23.2% (n=39) complicated exodontias cases were observed in which 3rd molar extraction was done under general anesthesia. Majority cases 25.6% (n=10) were operated in the month of February. In total, maximum number of OT cases were performed in the month of January i.e. 20.8% (n=35) under general anesthesia in O.T of OMFS (Table 2).

| Month | Trauma % (n) | Pathology % (n) | Extractions/ Impactions % (n) | Total no. of cases |
|----------|--------------|-----------------|-------------------------------|--------------------|
| January | 19.3(12) | 24.1(15) | 20.5(8) | 20.8(35) |
| February | 17.7(11) | 16.1(10) | 25.6(10) | 18.4(31) |
| March | 12.9(08) | 14.5(09) | 12.8(05) | 13.09(22) |
| April | 9.6(06) | 12.9(08) | 12.8(05) | 11.3(19) |
| May | 11.2(07) | 14.5(09) | 10.2(04) | 11.9(20) |
| June | 19.3(12) | 8(05) | 10.2(04) | 12.5(21) |
| July | 9.6(06) | 9.6(06) | 20.5(08) | 11.9(20) |
| Total | 36.9(62) | 36.9(62) | 23.2(39) | 168 |

The results of the OPD of Karachi Medical and Dental College were quite astonishing. In 2017, 25122 cases were reported in Surgery OPD. Total 36.2% (n=9097) teeth were extracted from which 1.93% (n=486) cases were surgical impaction. On the other hand, 1.65% (n=416) patients were treated through minor oral surgeries. In 2018, 29008 cases were reported in Surgery OPD. Total 42.7% (n=12377) teeth were extracted from which 0.92% (n=268) cases were surgical impaction. On the other hand, 0.71% (n=208)

patients were treated through minor surgeries. In 2019, January till July 13028 cases were reported in Surgery OPD. Total 42.6% (n=5559) teeth were extracted from which 0.66% (n=87) cases were surgical impaction. On the other hand, 0.68% (n=89) patients were treated through minor surgeries. (Figure 1)

Discussion

Maxillofacial trauma and pathologies are the wide spreading diseases not only in Pakistan but also in different regions of world. Abbasi Shaheed Hospital is one of three major tertiary care hospitals in which patients from all parts of Pakistan especially Sindh are referred for diagnosis and treatment of different diseases. Dental diseases are among major diseases present in Pakistani population. The widespread nature of these diseases is due to the multiple reasons. These may include consumption of sugar, pan, betel nuts, processed foods, tobacco etc. These products increase the risk of oral diseases worldwide. (11)

Evaluation of the results of trauma from the O.T cases of OMFS treated under general anesthesia revealed that July 2017 was the month in which most of the trauma cases reported. In 2017, total numbers of trauma cases were 40.1% (n=96) and in 2018, the figures of trauma cases raised to 51.1% (n= 108) whereas in 2019, the total number of trauma cases was 36.9% (n=62). In 2018, the heavy monsoon season observed in Karachi which increased the number of road accidents and poor driving of people leads towards the incidents, and injuries. Many studies have been published reporting the incidence of trauma at ASH. (12, 13)

Results reported that the cases of pathologies of the year 2019 were increasingly high. The cases sent for histopathology were treated accordingly as their histopathological diagnosis. As the data of year 2019 was of 6 months and data of year 2017 and 2018 was of whole year. There could be many reasons of this high frequency of pathologies. It could be due to increase in the incidence of oral cancers, oral submucous fibrosis, premalignancy and other types of pathologies. It could be due to increased awareness of patients towards oral pathologies to seek for treatment. As these pathologies, if untreated, may cause serious problems and have fatal consequences. (14)

Oral cancer has been increasing constantly owing to the increased use of pan, chalia and gutka in our society. Many studies have been published focusing on the role of etiology of oral cancer and other premalignant diseases. (15,16, 17)

The results have been showed that the cases of extraction and impactions have been constantly increasing since 2017, 2018 in 2019. In a study

published in 2014, Kashif et al. reported that maximum numbers of teeth were extracted at the age of 50.9 years and dental caries followed by periodontal diseases are the commonest causes of tooth extraction. (18) Another study evaluated the cause of tooth extraction among Nigerian population revealed that dental caries and its sequel along with periodontal diseases were the most common reason of teeth extraction in Nigerian Population. The results of the Oral Surgery OPD of KMDC revealed that extractions and impaction were greater in 2018. (19) Hence it has been revealed that the tooth extraction is common procedure across the globe and major reasons of tooth loss were dental caries and periodontal diseases.

Overall it has been observed that in 2019, dental issues became severe in Pakistan. We explored that poor oral hygiene and high usage of pan, cigarette and tobacco are among the main causes for extraction. The increase number of cases of maxillofacial cases in Abbasi Shaheed Hospital indicates that we need to improve our driving skills to avoid trauma in the future. Other investigators also emphasized on the role of oral hygiene maintenance to prevent oral diseases. (20)

Cross sectional design was the limitation of study. It is recommended that further longitudinal studies should be carried out on the subject. The OMFS record evaluation has great significance. Through this evaluation, the burden of OMFS trauma, pathologies and impaction/extraction were revealed among patients visited ASH and KMDC which help to establish and generate resources, funds for hospital and OPD as well as planning for preventive measures.

Record maintenance helps to establish policies for the betterment of OMFS and OS department to provide optimum care for the patient. Continuing dental awareness programs and workshops were consistently planned in order to create awareness amongst people for oral hygiene maintenance and tooth care. It has been recommended that awareness programs must be initiated and regularly planned in order to create awareness regarding prevention of maxillofacial trauma, oral hygiene care and early diagnosis of oral pathologies. Government should implement safety measures especially for motorcycle drivers to prevent road traffic accidents. Social and print media should play their positive role in order to provide knowledge regarding oral malignancies and pathologies and demonstrate drastic picture of using pan, chalia , gutka and other addictions etc.

Early diagnosis of dental caries and periodontal diseases should be available so that the incidence of tooth extraction can be reduced.

Conclusion

It has been concluded that evaluation of the records of oral and maxillofacial surgery cases reported to oral and maxillofacial surgery department, Abbasi Shaheed Hospital and outpatient oral surgery department of Karachi Medical and Dental College was quite considerable. Appropriate measures should be taken by public health agencies in order to manage these problems timely and effectively.

Conflict of interest: Authors do not have any conflict of interest.

Disclosure: None

Human/Animal Rights: No human or animal rights are violated during this study.

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