

EFFECT OF AGE ON POSTOPERATIVE COMPLICATION IN GERIATRIC POPULATION- A RETROSPECTIVE STUDY

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Abstract

Aim: The Aim of this study was to examine the prevalence and evaluate the incidence of complication related to the surgical removal of impacted teeth in a population of elderly patients.

Background: The oral health requirements of older individuals are frequently linked to surgical interventions aimed at establishing optimal circumstances for subsequent prosthetic interventions. One such procedure involves the extraction of severely decaying, broken, or impacted teeth that may negatively affect the fit or aesthetic of dentures. The removal of broken and damaged teeth is generally seen as necessary. However, there is a difference of view when it comes to impacted teeth, with some advocating for their preventive removal others debating the optimal age for such an operation.

Materials and Methods: The archival materials utilised in this study were sourced only from the archives of Saveetha Dental College, spanning the period from May 2023 to September 2023. One investigator individually reviewed the database based on predetermined inclusion and exclusion criteria. Following the completion of the selection procedure, all records that met the inclusion criteria underwent screening utilising a data extraction form to get the requisite data.

Results: 300 teeth were totally affected, with 75 teeth (25%) of them being moderately impacted. The total incidence of complication was 20% The prevailing problems seen in the study were haematoma, nerve abnormalities, and local infections.

Conclusion: Performance of surgical extraction in individuals aged 60 years and above is associated with a significant likelihood of potential problems.

Keyword: Geriatric Population, Oral Health, Teeth

INTRODUCTION

As per the definition provided by the World Health Organisation (WHO) and the United Nations (UN), an old individual is characterised as an individual who has surpassed the age of 60. In recent times, there has been a significant global rise in the elderly population. By the year 2025, it is projected that the global population of those aged over 60 would exceed 1.2 billion. The aforementioned prediction has led to heightened global recognition of the distinct health concerns associated with our ageing populations.

Moreover, a significant number of senior individuals encounter one or several systemic illnesses, the prevalence of which tends to rise in correlation with advancing age.

The health issues experienced by older individuals are often related to various complex interactions not limited to the economic status of the patient, the psychological status of the patient and other social factors.

The combination of the following factors affect the morbidity of the older patient population as compared to young patient demographic. The presence of oral health issues and the corresponding dental treatment requirements in older individuals has led to the establishment of a distinct field of

dentistry called geriodontics. The primary objective of geriodontics is to restore the proper functioning of the stomatognathic system in aged patients. This phenomenon is frequently linked to surgical interventions aimed at establishing optimal circumstances.

Table 1. Number of Patients and Teeth

	Male	Female
Number of Patients	39	33
Number of Teeth Affected	128	172
Number Of impacted teeth	27	38

Table 1 shows the number of Patients and Teeth

Table 2. Presence of Impaction

Gender		Frequency	Percent
Male	Not Impacted	12	30.8
	Impacted	27	69.2
	Total	39	100.0
Female	Not Impacted	4	12.1
	Impacted	29	87.9
	Total	33	100.0

Table 2 shows the presence of Impaction

Table 3. Frequency Of Complication

Gender		Frequency	Percent
Male	No complication	31	79.5
	Presence of complication	8	20.5
	Total	39	100.0
Female	No complication	27	81.8
	Presence of complication	6	18.2
	Total	33	100.0

Table 3 shows the Frequency of Complication

For any further prosthetic intervention. One such procedure involves the extraction of extensively decaying, broken, or impacted teeth that might negatively affect the fit or aesthetics of dentures. The extraction of broken and rotten teeth is generally agreed upon as necessary. However, perspectives about the preventive removal of impacted teeth and the optimal age for this treatment vary, with some holding extreme views. So far, there is a dearth of research investigating the incidence of complications related to impacted teeth in the senior demographic, with the exception of the mandibular third molars. Hence, the aim of this retrospective analysis was to investigate the existing problems and assess the overall frequency of complications associated with the surgical extraction of impacted teeth in a group of older individuals. The purpose of this assessment is to examine the negative health effects related to the surgical removal of impacted teeth. The goal is to provide efficient and affordable services, as well as to enhance intervention techniques and care strategies.

MATERIALS AND METHODS

The archival materials utilised in this study were sourced only from the archives of Saveetha Dental College, spanning the period from May 2023 to September 2023. One investigator independently inspected the database. The inclusion criteria for this study were as follows: (i) Presence of one or more impacted teeth, (ii) Age of the patient greater than 60 years, (iii) undergoing a surgical extraction technique for impacted teeth, and (iv) possession of a comprehensive clinical record. To achieve inclusion, it was necessary for all conditions to be satisfied.

Exclusion criteria such as history of chemotherapy, radiotherapy and Bisphosphonate drug therapy were selected as exclusion criterion due to the necessity for specialised care and the heightened incidence of adverse events seen by these individuals.

The occurrence of problems during surgical operations has been demonstrated in previous Studies. To maintain objectivity in our study, the exclusion of these cases was deemed necessary. Any inconsistencies in the selecting process were resolved through deliberation.

Afterwards, a single author conducted a thorough screening of all the included records using a data extraction form. This process aimed in gathering essential information, such as the age and gender of the participants, any existing comorbidities, the presence of impacted teeth, the variation In type of impaction, The experience level of the surgeon, and the incidence of any post operative complications.

The calculation of the overall complication rate involved dividing the total number of problems by the number of teeth that were surgically removed. Subsequently, a comprehensive examination of the acquired data was conducted by a Descriptive analysis.

RESULTS

The study group comprised a total of 72 dental records belonging to patients aged between 60 and 85 years. Among these records, 39 belonged to male individuals and 33 female individuals.

Within the sample of individuals, it was observed that 54% or 39 individuals had underlying medical conditions, with the most prevalent being cardiovascular problems. When a person was assigned to several categories, they were allocated to each pertinent group. A total of 300 teeth were affected, with 75 teeth (25%) being partly impacted.

The prevalence of Impacted teeth among individuals aged 60 years and above, as seen in a sample size of 72 patients, was found to be 2%. The Surgical impaction was done by residents of Oral and Maxillofacial Surgery of Saveetha Dental College. The surgical extractions were indicated for various reasons, including prosthetic purposes accounting for 72% of cases, pain complaints associated with peri-coronal infection or challenging tooth eruption processes accounting for 22% of cases, and dental caries accounting for 6% of cases. No significant localised abnormalities, such as cysts or tumours, were detected. The overall incidence of complications was found to be 20%, with an extra occurrence of protracted healing seen in 7 instances, accounting for 10% of the total cases.

The prevailing problems seen in the study were haematoma, nerve abnormalities, and local infections. The surgical extraction of wisdom teeth was shown to Associated with 61% of problems. The majority of the difficulties seen were of a transient nature, with the exception of two specific cases. Both involving the occurrence of temporary loss of feeling around the chin subsequent to the extraction of tooth 3 in one case and 45 in the second case. The occurrence of syncope was the sole intraoperative incidence seen in 8% of the subjects.

DISCUSSION

The mandibular third molars have a higher incidence of impaction compared to other teeth. The frequency of the phenomenon under consideration varies between 16.7% and 68.6%.

The following teeth that are most frequently affected are the maxillary canines, affecting around 0.92 to 2.4% of the

population. The findings of our study have corroborated similar outcomes in the elderly population, the prevalence rate was 0.3% and 0.2% for mandibular third molars and maxillary canines respectively

The study observed an incidence rate of around 2% for impacted teeth, which is comparatively lower than the reported value of 3.6% in existing literature. There are two potential explanations for this observation. Firstly, it should be noted that the data analysed in this study exclusively pertains to patients who underwent surgical extraction. Secondly, it is plausible that the prevalence of impacted teeth is influenced by age, specifically in relation to a history of prior extractions. The determination to perform a tooth extraction is contingent upon the Indication and requirement of the surgery.

The extraction of third molars is commonly performed in younger individuals due to orthodontic indications, but elderly patients often have this procedure due to periodontal considerations. Furthermore, it is important to consider the significant pathological conditions that can arise from impacted teeth, such as the development of cysts or neoplasms. Notably, these conditions were shown to occur nearly nine times more frequently in senior adults compared to patients under the age of 20.

The incidence rate of these problems was determined to be 2.77% among the cohort of patients with an average age of 32.7 years. The primary focus of our research group was individuals who need prosthetic interventions, and we did not meet any significant local diseases during our investigation.

Post operative complication such as dry socket, Infection and hematoma formation were the majority of difficulties when it came to surgical extraction.

Nevertheless, it is important to note that postoperative discomfort, edoema, and trismus are anticipated outcomes following a surgical procedure and are often temporary in nature. It is crucial not to classify them as complications.

A study by Bruce et al who had conducted a comparative study found that patient age is a significant risk factor for increased operation duration, particularly for individuals aged 26.5 years and older. The patients in question faced a risk that was 2-2.5 times higher while receiving a surgical procedure that lasted more than 10 minutes.

Chiapasco et al. conducted a prospective cohort analysis with 868 patients, which revealed that those aged 24 years and beyond had a complication risk three times higher than those below this age threshold.

RESULTS

A complication incidence of 20% has been seen following surgical extractions of impacted teeth. While the majority of consequences seen were of a transient nature, such as haematoma and local infections, there was Two instances of mental nerve damage leading to transient loss of feeling in the area surrounding the chin.

The potential problems associated with surgical extraction should be taken into consideration while performing the procedure on individuals aged 60 years and above.

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