



A RETROSPECTIVE AUDIT OF MEDICAL COMORBIDITIES IN PATIENTS UNDERGOING ELECTIVE OTOLARYNGOLOGICAL PROCEDURES IN SECONDARY HEALTH CENTRE IN EASTERN SUBURBAN MUMBAI.

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Dr Dilesh A Mogre*

Senior Resident, Department of ENT and Head Neck Surgery, Centenary Hospital, W. T. Patil Marg, Govandi, Mumbai, Maharashtra, India. Pin-400088. *Corresponding Author

Dr M D Fazal Ahmed

Resident, Department of ENT and Head Neck Surgery, Centenary Hospital, W. T. Patil Marg, Govandi, Mumbai, Maharashtra, India.

Dr T. Parvathi Banu

Head of Department, Department of ENT and Head Neck Surgery, Centenary Hospital, W. T. Patil Marg, Govandi, Mumbai, Maharashtra, India.

ABSTRACT

Otolaryngology is rapidly evolving along with methods of anaesthesia with increased trend towards daycare surgery. A retrospective audit of incidence of medical comorbidities and assess its impact on elective otolaryngological procedures was studied. The study was performed in the department of ENT in a secondary health centre between Oct 2016 and Sept 2017. A total of 290 patients between the ages of 12 to 78 years who had undergone ENT surgical procedure were included. 57 (19.66 %) cases had respiratory disease, 51 (17.59%) were diabetic while 48 (16.55) had cardiovascular diseases. In secondary health centre settings elective non emergency otolaryngology cases are associated with a high number of medical comorbidities which influence the daycare theater list planning, anaesthesia as well as impact cancellation rates. A busy otolaryngology clinic needs to adapt to these to successfully and safely handle the rising case load while providing efficient surgical care.

KEYWORDS

Elective surgery, Medical Comorbidities, Otolaryngological Procedures

INTRODUCTION:

Otolaryngology is a rapidly evolving branch with an ever increasing trend towards short procedures and day care surgery. The rapid rise in endoscopic surgery and minimally invasive surgery has shortened duration of the procedures along with use of different methods of anaesthesia. This evolving trend of opting for day-case surgery is due to the need to shorten the waiting lists and reduce bed occupancy with the advantages of reduced risk of infection and patient convenience. It provides minimal disruption of daily routine and early recovery.¹

In day care surgery choosing the right type of anaesthesia is vital and presents with unique challenges. Preoperative evaluation, assessment of risk factors is key for early recovery and safe discharge from the hospital.² With this rapidly evolving field otolaryngologists should play a proactive role in clinical governance and set in quality assurance methods. The rationale for selection of cases for elective non emergency surgery should be justified and should follow international norms. The impact of comorbidities on ENT cases needs to be evaluated thoroughly as it can influence the type of anaesthesia, postoperative recovery as well as impact incidence of post procedure complications and prolonged hospital stay.

We hereby present a retrospective audit of incidence of medical comorbidities in our secondary care set up and assess its impact on elective otolaryngological procedures.

MATERIALS AND METHODS:

A retrospective review of records was performed in the department of ENT and head and neck surgery in a secondary health centre in the eastern suburbs of Mumbai between Oct 2016 and Sept 2017. A total of 290 patients between the ages of 12 to 78 years who had undergone ENT surgical procedure were included. Day surgeries in this audit were defined as the ENT surgeries in which the date of admission, surgery and of discharge was the same. We analyzed how many surgeries were performed, collected demographic data and medical comorbidities from case record files. This study was performed according to the Declaration of Helsinki and prior approval of institutional ethics review committee.

The data was analyzed using standard statistical packages like Graphpad Prism, Version-6.07 (Trial). Appropriate statistical analysis with chi-squared test. The significance level of $p < 0.05$ was chosen to define statistical significance.

RESULTS:

A total of 290 patients were operated in ENT theatre between Oct 2016 and Sept 2017. The age ranged from 12 to 78 years mean age was 28.56

years (SD = 18.78). 130 (44.83%) cases in our series were performed as day care procedure.

The following table enlists the medical conditions present in our study population and presents it as percentage of total cases.(Table No. 1).

Table No.1: Comorbidities in patients undergoing elective otolaryngological procedures.

Comorbidity	Number of cases	Percentage (%)
Respiratory disease	57	19.66
Diabetes mellitus	51	17.59
Cardiovascular disease	48	16.55
Stroke	6	2.07
Renal disease	4	1.38
Past H/O Malignancy	4	1.38
Autoimmune disease	3	1.04
Parkinson's disease	1	0.34
Total	147	50.68

Of the total 57 (19.66 %) cases with respiratory disease, 39 (68.42 %) had sequelae of pulmonary tuberculosis in the form of apical fibrosis or calcification, 13 (22.80%) cases had COPD and the rest had asthma. Hypertension was the most common cardiovascular condition with 37 (77.08%) cases followed by 12 (25%) cases with left ventricular hypertrophy and 10 (20.83%) cases with ischaemic heart disease on antiplatelet therapy.

The distribution of addictions in elective cases is depicted in the pie chart below. (Fig. No. 1). Average addiction of each with addiction patient was 3.12 substance.

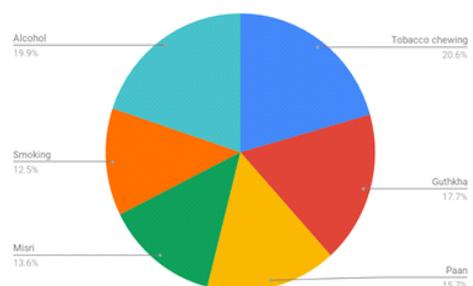


Fig. No. 1: Addictions in patients undergoing elective otolaryngological procedures.

The number of cases which had previously got cancelled due to medical condition was statistically significant to the number of concomitant comorbidities using the chi-square test (p -value is < 0.00001). This has been demonstrated in Fig no. 2.

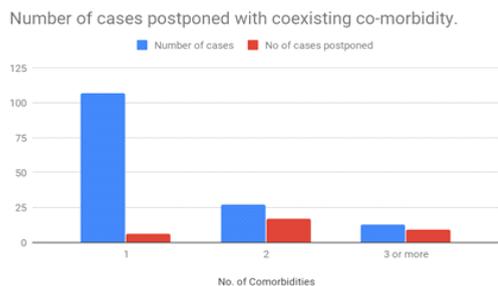


Fig. No. 2: Correlation between coexisting medical conditions and postponed cases.

In our review 5 (1.72%) cases developed postoperative wound infection and 7 (2.41%) had bleeding or haematoma. There was no statistical correlation found between the comorbidities and incidence of complications except for advanced age.

DISCUSSION:

Otolaryngology has steadily grown in our country. The availability of new technology especially endoscopic surgery has greatly increased the dimensions of ENT procedures. The western world has been quick to adopt day care surgery. In urban secondary health care settings which are extremely resource limited day-care surgery offers an excellent resource. The Royal College of Surgeons of England in 1992 consider that day-care provides the best option for around half of appropriately selected procedures across various specialities.³ Along with developments in surgical technology there have been advancement in medical fields with the advent of newer anaesthetic agents and techniques and methods of analgesia.⁴

This study focused on identifying which patients undergoing elective non emergency otolaryngological procedures in secondary health centre settings; are at greatest risk due to their comorbidities and if there is any correlation with complications. Such audit has never been conducted in a large secondary health center setting in our region. We investigated how demographic factors and important medical conditions influence theater list planning and its impact on postponement of cases. Study of certain important factors such as delay to surgery due to medically unfit, type of medical interventions undertaken were beyond the scope of this study.

This audit shows that roughly half of our case load had coexisting medical conditions. This high number is a reflection of patient drainage of this eastern suburban area. The mixed public and private health care providers has an impact on drainage of patients in public hospital settings. Our study found out that one third of our cases had two or more coexisting medical conditions. Respiratory diseases were the most common pathology. According to a study pulmonary complications account for a major chunk of post surgical morbidity, past history of smoking, COPD and pulmonary fibrosis are good predictors of such complications.⁵ The fact that tuberculosis is a major health problem was reiterated by our case series. India has one third the number of cases of tuberculosis globally with approximately 2 million new cases annually.⁶ Respiratory pathology has a significant impact on type and method of anaesthesia as well as duration of procedure. In our study cardiovascular morbidity was the second largest contributor which has an impact on local anaesthesia in otolaryngological surgery. In the United States cardiovascular disease are thought to cost 30 million dollars to patients undergoing noncardiac surgery.⁷ Perioperative hypertension has effect on blood loss and affecting clear operative field as well as postoperative bleeding and haematoma. In our study 51 cases (17.59%) were diabetic, special attention and preoperative preparation is needed in patients with diabetes. According to Frisch et al. surgical patients with diabetes have greater rates of complication, mortality with increased duration of hospital stay.⁸

The low socioeconomic status of the patients and regional influences especially in urban slums meant that our study population had high addiction rates. Some of our population had three or more concomitant

addictions. Around 80 % of our population had tobacco or tobacco related addiction. According to Schwilk et al. the relative risk of perioperative respiratory events was between 1.8 to 2.3 in smokers and 6.3 in obese young smokers. The relative risk of perioperative bronchospasm was as high as 25.7 in young smokers with chronic bronchitis.⁹ The high number of pulmonary and cardiovascular pathology along with high number of smokers in our study puts our population at risk. Around one third of our cases were addicted to gutkha and paan which causes oral submucous fibrosis and reduces mouth opening this influencing the mallampati scores and risk during surgery.

The number of cases which had previously got cancelled due to medical condition was statistically significant to the number of concomitant comorbidities. Those who had two or more comorbidities had the highest possibility of cancellation. In NHS the rate of cancellation on the day of surgery was between 10% and 14% but only one-third were because of clinical reasons.¹⁰ Our retrospective study demonstrated that advanced age was associated with high risk of complications. This has been observed by many studies and thought to be multifactorial.¹¹

CONCLUSION:

We conclude that even in secondary health centre settings elective non emergency otolaryngology cases are associated with a high number of medical comorbidities which influence the daycare theater list planning, anaesthesia as well as impact cancellation rates. A busy otolaryngology clinic needs to adapt to these to successfully and safely handle the rising case load while providing efficient surgical care.

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