Original Research Article

Trends in Otorhinolaryngology Practice during COVID 19

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Received: 01-10-2020 / Revised: 26-12-2020 / Accepted: 23-01-2021

Abstract

Covid 19 pandemic has taken the world like a storm, sweeping all countries across the globe. We are flooded with new revelations about the virus characteristics, morbidity and mortality statistics especially of the health care workers. More than six months have passed and we still have no definite treatment. These factors are affecting our medical practices in an unprecedented manner. This is a web based survey from 144 practicing otorhinolaryngologists to ascertain some of the aspects in which this pandemic has affected our practice. Majority are following protective protocols, not delaying tracheostomy or emergencies. They are avoiding aerosol generating procedures, endoscopies, prolonged surgeries, as well as oncosurgeries. Patients have decreased but covid phobia patients have increased. There is a lot of scope of improvement with regards to teleconsultations, training for donning and doffing of PPE.

Keywords: Covid 19 pandemic, otorhinolaryngology practice, current recommendations.

Introduction

There has been an outbreak of novel corona virus in 2019, with highly contagious zoonosis (2.8), spreading by respiratory secretions[1].Otolaryngologist fall in the group of highly susceptible health care workers. Health care worker represent 3.8 to 20% of the infected population[1,2].Around 15% will develop severe disease and some may succumb to it. The first fatality amongst them in Wuhan was of an otolaryngologist[3]. Asymptomatic patients which range from 13 to 30%, pose a real risk for surgeons due to aerosolize nasopharyngeal secretions[2]. Therefore it was rapidly identified that there is an urgent need for protective measures in the high-risk health care worker. Procedures like nasolaryngoscopy, endoscopic sinus surgery, powered instruments increase the risk of infection, so they should be routinely avoided or used only when mandatory[1]. Rate of infection is significantly less when standard methods of protection are strictly employed[4].In pandemics people see doctor either as source of contagion or as security. Either of the situation has adverse outcomes. There is an urgent need to develop an efficient infrastructure for teleconsultations. Infection related xenophobia is a potential risk for surgeons protection[5].This study is a web-based survey from practicing otolaryngologist in various settings in an effort to highlight some aspects in which this pandemic has affected our practice in the field of otorhinolaryngology and the recent international recommemdations on those aspects.

Material and methods

Google docs forms were used for this survey. The form used is https://docs.google.com/forms/d/1vnfVNnD3YVZTjmt9RM5XvaEX36snD9st01LmQgghs8I/edit.

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Closed ended questions were mostly used for the ease of participants and this also made the study evaluation uniform. Ethical clearance was taken from the institutional ethics committee. Forms were sent to the otolaryngology groups as well as on personal WhatsApp of the participants. Around 500 practising otolaryngologists were approached. Around 144 responded within three weeks. The google doc was sent on July 20, 2020, responses upto August 10, 2020 were included in the analysis.

Results

Out of the 144 responders maximum were males (84), in the age group below 45 yrs of age (114) and working in teaching hospital (75) followed by government hospital (32) . The samples for covid testing are being taken by maximum by lab technician (87) from nasopharynx as well as oropharynx (97). The maximum parameters studied are depicted in Table 1.Maximum doctors are not using teleconsultations as a primary modality of attending the otorhinolaryngology patients. Regarding usage of protective equipments for self , N 95 mask is being used by majority, followed closely by face shield. OPD usage of PPE kit is very low which is mostly being used in operation theatres. Respirators are being used by a very small numbers. A good numbers of doctors have facility for PPE kit disposal, but they lack in training for donning and doffing and separate area for the same.Doctors have decreased their consultation timings and maximum are doing nose and throat examinations by light (Table 2), (Figure 1) and avoiding endoscopies, except laryngoscopy . Ear examination is being done with instruments. Patients have decreased, but a lot of patients with throat symptoms have covid 19 phobia (Figure 2) and they have surgery phobia. Majority of doctors are avoiding long surgeries of otorhinolaryngology because they are not sure whether it is safe to do surgery even after negative covid 19 report (Figure 3) but not delaying tracheostomy or emergencies.

Last but not the least majority are following safety guidelines but are not satisfied with the patient management.

Table 1: Tabulated summary of the study

S.No.	QUESTION	YES	NO
1.	Teleconsultation	63 (43.8 %)	81 (56.3 %)
2.	N 95 mask	138 (95.8%)	6 (4.2%)
3.	Face shield	120 (83.3%)	24 (16.7)
4.	PPE kit in routine OPD	32 (22.2%)	112 (77.8%)
5.	PPE kit in OT only	87 (60.4%)	57 (39.6%)
6.	Respirator	29 (20.1%)	115 (79.9%)
7.	PPE kit disposal facility	127 (88.8%)	16 (11.2%)
8.	Training for donning & doffing of PPE kit	97 (67.8%)	46 (32.2%)
9.	Separate donning & doffing area	99 (69.2%)	44 (30.8%)
10.	Patients have decreased	131 (91.6%)	12 (8.4%)
11.	Surgery phobia in patients	115 (80.4%)	28 (19.6%)
12.	Decrease consultation time	124 (86.1%)	20 (13.9%)
13.	Indirect laryngoscopy	44 (30.6%)	100 (69.4%)
14.	EUM	88 (61.6%)	56 (38.9%)
15.	Laryngoscopy	85 (59%)	59 (41%)
16.	Nasal endoscopy	69 (47.9%)	75 (52.1%)
17.	Avoiding long surgery	89 (62.2%)	54 (37.8%)
18.	Doing all ear surgeries	63 (43.8%)	81 (56.3%)
19.	Doing all nasal surgeries	47 (32.6%)	97 (67.4%)
20.	Doing all oral surgeries	46 (31.9%)	98 (68.1%)
21.	Doing all head and neck surgeries	42 (31.9%)	102 (70.8%)
22.	Onco surgeries	55 (38.2%)	89 (61.8%)
23.	Emergencies as before	110 (76.4%)	34 (23.6%)
24.	Delaying tracheostomy	64 (44.4%)	80 (55.6%)
25.	Satisfaction with patient management	61 (42.7%)	84 (58.7%)
26.	Following guidelines	102 (70.8%)	43 (29.9%)

Table 2: ENT examination protocol

	Examination	Light	Instruments
1.	Nasal examination	93 (64.6%)	54 (37.5%)
2.	Ear examination	37 (25.7%)	110 (76.4%)
3.	Oral examination	83 (58%)	63 (44%)

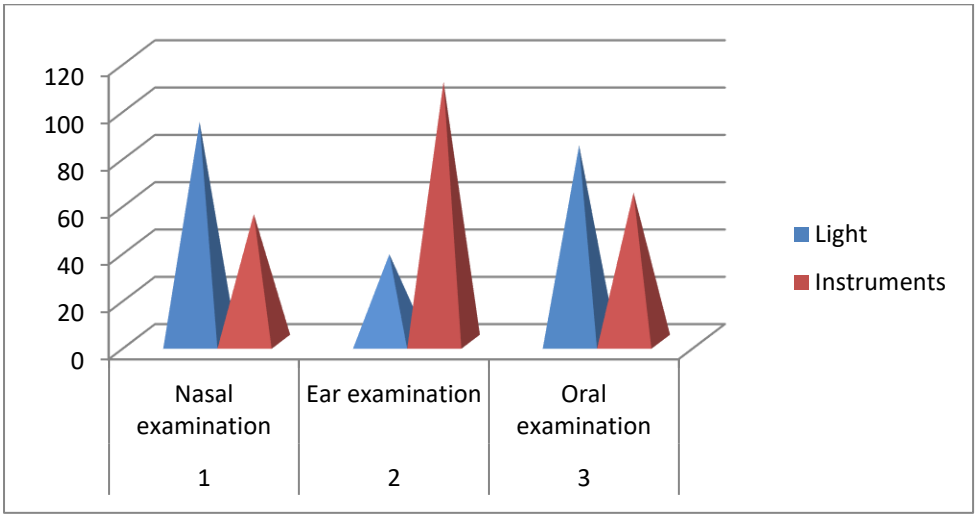

Fig 1: ENT Examination protocol.

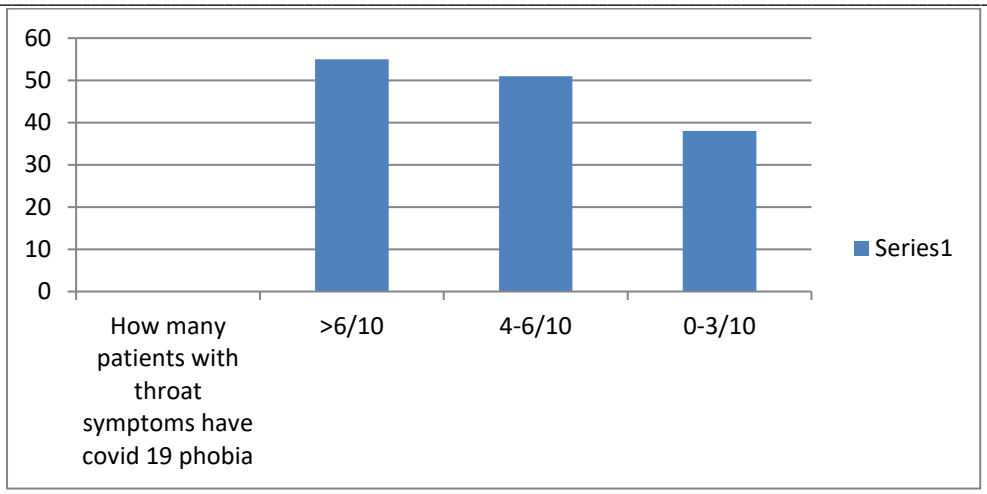

Fig 2: COVID phobia on a scale of 10

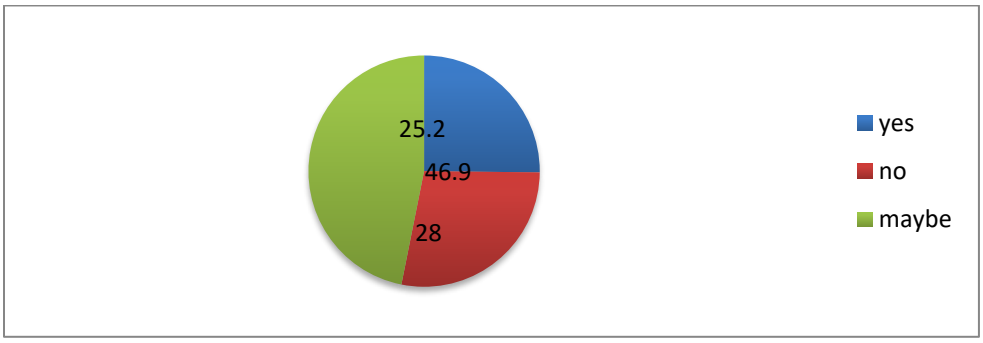

Fig 3: Is it Safe to do surgery after negative COVID 19 report

Discussion

Majority of responders (79%) were less than 45 years of age and mostly males working in teaching hospitals which have high patient load. So these are the groups which fall in low risk category with less comorbidities[6].Data suggest that the rate of infection and mortality in doctors is higher than the general population.Majority (56%) are not using teleconsultations probably due to limitations of examination in our hidden areas of ENT. Video consultations are preferable over voice consultations. Teleconsultations help prioritizing patients who urgently need hospital consultations. Oncology patients can consult by sharing follow up scans. Our government needs a vast infrastructure to build up these facilities in the government set up which actually caters the vast majority of our rural population. A large group of our population is of rural background and they do not have access to the technology in means of knowledge as well as financial capabilities to have an access to smart phone and high speed internet which are a pre requisite[7,8]. Maximum people are using N95 mask (95%), face shield (83%) and PPE kit in OT (60%). Few are routinely using respirators (20%) and PPE in OPD (22%). The reason might be the huge cost factor and discomfort with prolonged routine usage. These measures also hamper the communication both ways. This leads to vocal strain, decrease coordination between team members and affect patient satisfaction. Studies indicate that N 95 respirators result in upto 17% drop in speech intelligibility[9].Majority (88%) have availability of proper PPE disposal in house, which is a good indicator as it limits spread of infection. But training of donning and doffing of PPE was done by 65% and separate donning and doffing area was available to 66%.One of the important reasons to explain healthcare worker infection may be related to lack of PPE education about its correct usage[10].It has been proposed that standard measures correctly followed are far more successful then quick implementation of complex strategies[4]. We are lacking in proper training of donning and doffing and using facial shield along with mask. It is advisable that the operational hygiene team should be there to conduct training and refresher course in these aspects[11].The standard existing protective measures, used routinely do not prevent the infection, due to the special characteristics of the virus. Specific mask N 95 or higher or powered air purifying respirator (PAPR) and special dedicated sterilization measures should be implemented to prevent the spread of the infection[12].One case series revealed that of the 41 healthcare workers who had history of contact with aerosolized secretions of covid-19 positive patients, who used now proposed standard PPE, none developed infection. This indicates that rate of infection is significantly low when the proposed standard methods of protection are employed correctly[4].70% in our study are following the guidelines strictly. Covid testing samples are being collected mostly by lab technicians (60%) both from nasopharynx and oropharynx (67%). This carries a definite risk of false negative

results unless the technician is aware of the problems of nasal airway narrowing due to deviated nasal septum, turbinate hypertrophy etc. and fails to reach the nasopharynx to take adequate sample[13].Majority feel that patients have decreased (91%) and are also afraid to undergo surgery (80%). Majority of patients with throat symptoms have covid phobia. There is specific risk associated with 'Health anxiety', when minor sensations of changes are perceived as symptoms of illness[14]. In outbreak of pandemics this can produce detrimental effects. Patients are overwhelmed with informations through media and social networks[15]. This could have two affects. People see doctors as source of contagion and do not go to doctor even in emergency situations, or as source of security and visit them frequently. Either of the situations adversely affects the practice[5]. Consultation time has been reduced by majority (86%) because it is advisable to do so to reduce the exposure time of the doctor.63% of nasopharyngeal swabs were positive in China. Higher viral road is detected in nose then in throat[16]. Inspite of that, recommendations for clinical and endoscopic examination can be very controversial because adequate PPE kits to all staff cannot be made available everywhere. Majority are doing nasal examination with light (64%) and avoiding diagnostic nasal endoscopy (52%). Guidelines advice videoendoscopy to keep the patients and doctors faces apart, avoiding nasal spray for endoscopy, gentle nasal packing for decongestion, 2 to 3hr gap between two patients unless special arrangements like negative pressure or room with high performance cleaning systems are in place[17,18]. Ear examination is being carried out by majority with otoscope (76%) and microscope (88%), in view of low risk of aerosol generation unless suctioning is done in the middle ear which is connected to nasopharynx. Recent studies indicate that middle ear and mastoid cavities of covid- 19 positive patients show presence of virus[19]. 58% are examining Oral cavity with light and avoiding indirect laryngoscopic examination (70%) but marginal majority (59%) are doing laryngoscopy as it is crucial in diagnosis of laryngeal lesions. Recommendations say that routine endoscopies should be avoided. Increased suspicion or risk of malignancy and airway obstruction should form the indication of endoscopic examination[17,18]. Maximum otorhinolaryngology surgeries are aerosol generating and data suggests that post operative complications are more in covid-19 positive patients. Majority are avoiding long surgeries (62%), nasal surgeries (67%), oral surgeries (68%) and head and neck surgeries (70%), because they (74%) are not sure if negative covid-19 patients are safe to operate. The sensitivity of nasopharyngeal swab results is a limiting factor. Majority of samples are being taken from this area routinely. Samples from bronchoalveolar lavage are higher in sensitivity but they are not being done for screening purposes. RT-PCR sensitivity ranges from 60 -70% to 97% in various studies[20]. Routinely doing repeated and extensive investigation in all patients is not feasible though some institutes are doing two RTPCR test at an interval of 24 hours, HRCT thorax before surgery to rule out covid infection[20].Data is unclear on the effect of this pandemic on oncology patients. 61% are not routinely doing oncosurgeries. Majority of head and neck cancers double in volume in 1 to 3 months and this results in up staging of tumor. Firstly the diagnosis is delayed due to requirement of general anaesthesia for doing scopies. Data suggests that delay in treatment initiation has significant impact on overall survival for a patient undergoing upfront surgery or definitive RT. 4 to 6 week of interval is advocated for initiation of treatment after diagnosis. Little delay can be adjusted for less aggressive pathologies but for aggressive pathologies the risk must be weighed in contrast to a lot of other factors like risk to patients, health care workers and society as a whole.[21,22] In an effort to avoid endoscopic procedures, decrease use of operating room, ICU beds, some have advocated definitive RT against surgery for HPV related head and neck squamous cell carcinoma. Recommendations are for multidisciplinary virtual consultation meetings for head and neck oncology patients[11]. Tracheostomy and its post operative care is a high risk procedure with respect to aerosol generation. Recommendations suggest that percutaneous tracheostomy is associated with higher aerosolization compared to open tracheostomy because of more extensive airway manipulation by bronchoscopy and or serial dilatations[23]. Recommendations are that it should be done in the theatre with full protection under complete paralysis to prevent coughing and aerosol dispersion, mechanical ventilation to be suspended while opening the trachea. Cuffed, non fenestrated tracheostomy tube with closed circuit suction and HME (heat moisture exchanger)should be used[20,24].Only 44% are delaying tracheostomy. In covid -19 positive patients tracheostomy should be delayed till day 10 , when patient shows signs of improvement or he is no longer infectious[24].Emergency surgeries are being carried out by majority (76%). Some emergencies must be treated without delay like severe trauma, abscesses and infection which fail to respond to optimal medical treatment. Some can be postponed eg. Plastic surgery. Rhinology conditions like invasive fungal sinusitis, complications of sinusitis. Otology conditions like cholesteatoma with complications, malignancies. Adenotonsillectomy in case of severe OSA should be treated as emergencies warrenting urgent surgeries[11].Majority (58.7%) are not satisfied with the existing way of new normal of managing the patients. Around 50% in each type of working set up are dissatisfied, which indicates that it is not related to the working environmemt. Most probably because they daily face the dilemma of delivering patient care with constraints of limited examination procedures, resources, risk of getting severely infected and a lot of ethical issues involved[25,26].

Conclusion.

Covid-19 pandemic has had a dramatic impact on surgical workflow. Abundance of ever changing information and protocols are reflexly modified on a daily basis. Use of teleconsultations should be promoted but need a huge infrastructure for the uniform availability of the facility to our vast rural population. There should be more rigorous training for donning and doffing of PPE kit and separate area for above. We should not defer any surgery which is time sensitive whose postponement can result in loss of chance for the patient.

New challenges demand new solutions, in this unprecedented pandemic we look forward to integrating the new lessons learnt each day to promote best possible care to the patients, using effective biosafety precautions. This paper is a drop in the ocean, but it does highlight some aspects which can be improved for present and to be future ready for such global health problems. Only time will tell what worked best.

Limitations of the study

Our numbers are less so generalisation to the whole speciality with varied working setups may not be possible.

Acknowledgement

We sincerely thank all the colleagues who have given their valuable inputs in the study by sparing their time to fill the questionnaire.

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Conflict of Interest: Nil
Source of support:Nil