

## ORIGINAL ARTICLE

### OPHTHALMOLOGY PRACTICES DURING COVID-19 PANDEMIC: MEASURES TAKEN IN DEPARTMENT OF OPHTHALMOLOGY IN ASSAM MEDICAL COLLEGE, DIBRUGARH

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## INTRODUCTION

*"You never let a serious crisis go to waste. It is an opportunity to do things  
you think you could not do before" Rahm Emanuel*

Being a pandemic but mostly a respiratory illness with various deceiving  
symptoms & multi systemic manifestations, the 2019 novel corona virus  
disease also has been affecting the ophthalmological fraternity to a large  
extent<sup>1</sup>.

There is a risk of possible conjunctival transmission, as well as risk of  
contamination during phacoemulsification procedures, contact procedures  
such as applanation tonometry, various operative and anesthetic  
procedures, human to human transmission due to large crowds in

hospitals which puts the health staff and doctors at an increased risk<sup>2</sup>.

The quantum and magnitude of the disease is so devastating that there is an emergent need to explore all the preventive and therapeutic strategies to contain or lower the spread of the disease. The transmission even by asymptomatic carriers possess a grave threat to the health staff all around the world. By this time vaccine trial has been started and mass vaccination has been going on in few countries which brings a possible ray of hope for a better future.

Here in this article we are trying to give a glimpse into the patient care and management at Department of Ophthalmology, Assam medical college & Hospital , Dibrugarh during this pandemic period.

The All India Ophthalmological society drafted some comprehensive & inclusive guidelines named **“Ophthalmic practice guidelines in the context of covid 19 era<sup>3</sup>”**

All umbrella associations of AIOS have been actively involved in the process to publish this dynamic document. Keeping an eye on the guidelines issued by the government of India, Indian Council of Medical Research, the AIOS guidelines encompassed all the relevant and required information for a preferred practice pattern during covid 19 period.

In our department we have been following the directives issued by competent authorities as well as protocols laid down by the government of Assam .

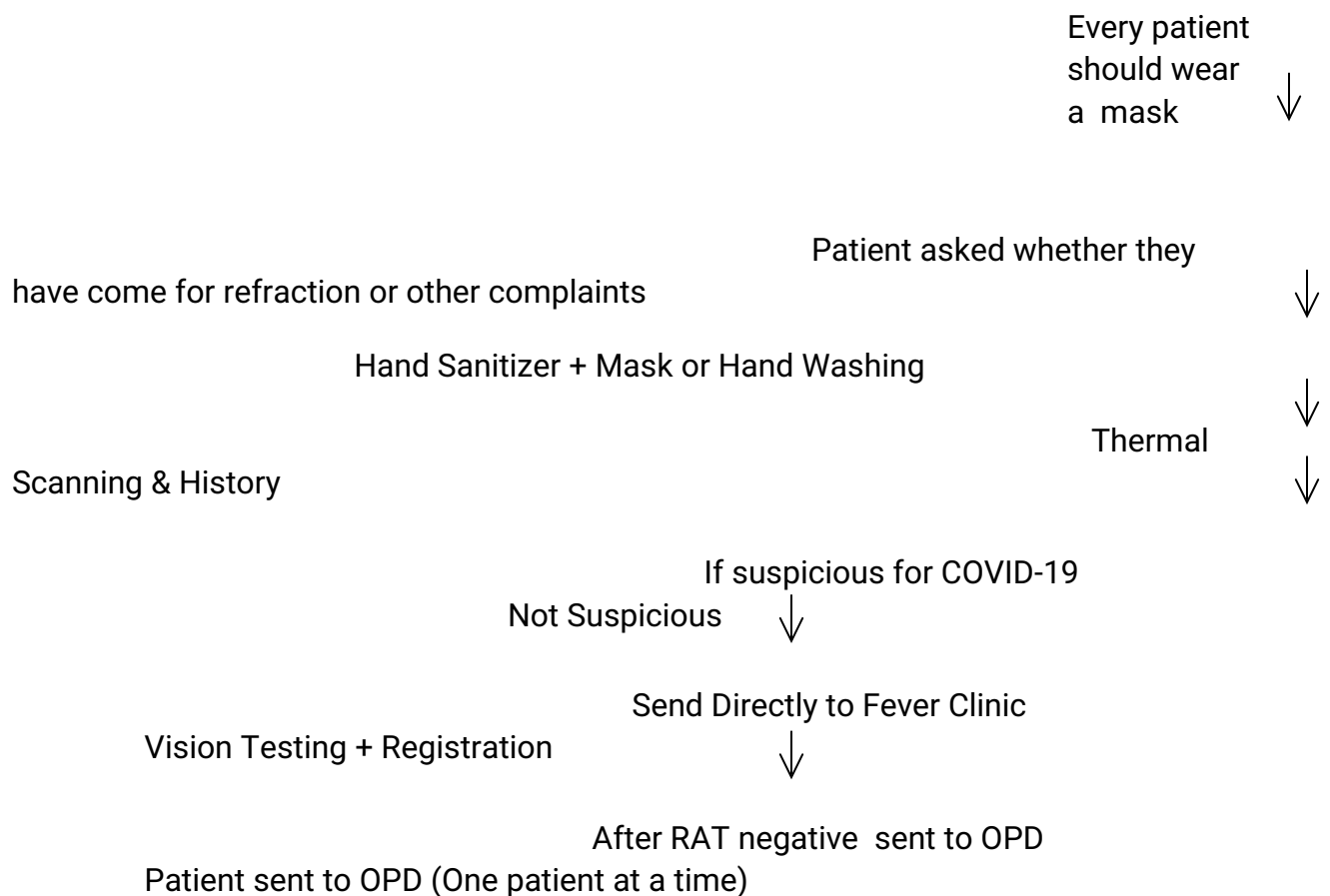
We have formulated a protocol regarding patient examination in our out-patient department while doing procedures such as refraction, fundus examination and also during operative and other contact/invasive procedures.

As this upgraded department has been conducting residency programs in ophthalmology since long, most of the residents and faculties are actively associated with direct covid care patient management on a periodic basis

apart from taking part in usual ophthalmological routine duties.

## PRECAUTIONARY MEASURES AGAINST COVID-19 (AMCH, Ophthalmology)

### REFRACTION ROOM



- Refraction was suspended for the month of May
- Refraction was limited to upto 5 patients during April to July, upto 10 Patients for August & September, upto 20 patients for October.

- Admission of patients was suspended from March till August.
- Emergency cases were admitted after the month of August, limited to less than 5 cases.
- Elective cataract surgeries were postponed till after August.
- Fundoscopy: To use only indirect ophthalmoscope.

### **Precautions for Doctors in Refraction Room**

- Wear gloves and N-95 mask.
- Wear face shield or gown
- Use hand sanitizer frequently
- Sanitize respective instruments after every patient examination .
- Proper disposal of gloves, mask, cap etc.
- Maintain social distancing as much as possible.

The OPD & Refraction room statistics are as summarized below :

Month and Max No. of Patients per day	Total Patients in a month	Male (Adult)	Female (Adult)	Children (<18 Yrs)
May	Refraction	Suspended		
June (5pts/day)	75	42	32	1 male
July (5pts/day)	60	37	23	–
August (10pts/day)	114	62	49	1 Female 2 Males
September (10-15pts/day)	263	135	121	3 Female 4 Male

October (20 pts/day)	413	208	186	9 Female 10 Male
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## PROTOCOLS & PROCEDURES IN OT ROOM

- Elective surgeries were suspended from the month of April to September
- Only emergency surgeries were performed limited to 0-2 cases per month as situation calls for.
- Elective surgeries were resumed from the month of October, limited to <3 cases per day, same days even without surgeries
- All surgeries were only performed if patient is fit for surgery & recent rapid antigen test (RAT) or RT-PCR test for covid-19 is negative.
- GA procedures were suspended during the active phase
- Phacoemulsification procedures were also halted.
- All precautionary measures and universal safety precautions were applied.

## PROTOCOLS FOR WARD

- Patients and attendants should be screened before visiting wards.
- Only 1 attendant per patient can be allowed.
- Patients to be kept by maintaining adequate distancing.
- Regular sanitation of ward with 1% sodium hypochlorite to be done frequently. Instrument sterilization is to be done after seeing every patient.
- In case a covid-19 patient with eye condition is to be admitted, a separate room or isolation ward should be used.

The Major & Minor OT cases statistics have been summarized below ;

## Major OT Cases

Month	Total no. of cases operated (Male/Female)	Diagnosis	Treatment
April	Major OT suspended	Until further notice	
May	DO	DO	
June	DO	DO	
July	DO	DO	
August	2 cases (1M/1F)	LIG	SICS WITH PCIOL R/E
September	1 Male	LIG	SICS R/E
October	4 Male	Cataract	SICS WITH PCIOL Implantation

## Minor OT Cases

Month	Total no. of cases operated (Male/Female)	Diagnosis	Procedures
April	OT suspended	Until further notice	
May	6 cases (5 Male, 1 Female)	<ul style="list-style-type: none"> <li>- Corneal laceration with iris prolapse (4)</li> <li>- Foreign body cornea (1)</li> <li>- Foreign body ant chamber(1)</li> </ul>	
June	3 cases (2 Female, 1 Male)	<ul style="list-style-type: none"> <li>- Hyphaema</li> <li>- Limbal ruptures with iris prolapse</li> <li>- BCC LLL</li> </ul>	Paracentesis UNDER GA.  Repair  Incisional biopsy
July	3 Cases (Male)	- Rt. Upper eyelid mass	Wide local

		and sebaceous gland tumour - H/R PDR with vitreous haemorrhage.	excision + HPE  Inj. Avastin Intravitreal
August	NO Minor	OT CASES	
September	4 Cases (Male)	Corneal perforation with iris prolapsed  High risk PDR with Vitreous haemorrhage  PDR with CSME	Repair  Retina clinic workup and  Inj. Avastin intravitreal.
October	12 Cases (10 Male, 2 Female)	<ul style="list-style-type: none"> <li>- Panophthalmitis (1)</li> <li>- Scleral laceration with full chamber hyphaema <ul style="list-style-type: none"> <li>- PDR</li> <li>- LSME</li> <li>- ARMD</li> <li>- BRVO</li> </ul> </li> <li>- Lacrimal stent (I) in-situ (IDCR)</li> </ul>	<ul style="list-style-type: none"> <li>- Evisceration GA</li> <li>- Repair</li> <li>- INJ Avastin</li> <li>- Lacrimal stent reversal</li> </ul>

The Upgraded Department of Ophthalmology has a pool of 27 residents in the MS academic curriculum with 14 faculties. 3 number of faculties have been admitted in the covid hospital with moderate to severe symptoms and only one post graduate student was having mild symptoms who were all treated successfully. The residents from the ophthalmology department have been

involved in almost three rounds in both screening and designated covid hospitals during the time of pandemic and though there was limited suspension of academic activities in the active phase of the disease , online classes , seminars , workshop were held regularly. By this time of diminished curve of the disease the usual rush of the OPD is going on and all the subspecialty clinics are functioning with usual operative procedures. The usual safety protocols and strict measures have been implemented in the ophthalmology workups.

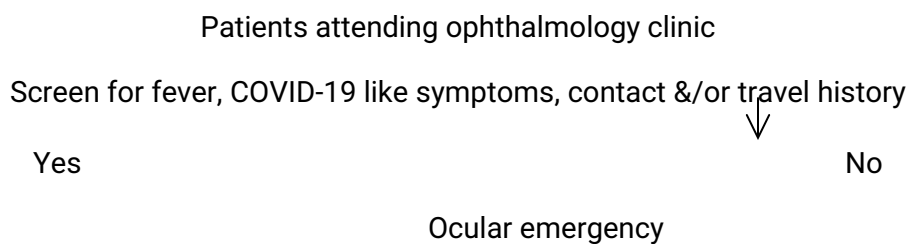
## DISCUSSION :

Ophthalmologists have been particularly affected by the pandemic as there has been a significant downscaling of ophthalmological patient encounters & procedures. Majority of ophthalmological surgical procedures are elective such as cataract surgeries and a significant proportion of patients are older with a greater risk of co- morbidities. Reduced patient volume continues to affect ophthalmologists financially as well as skill development especially for young surgeons.

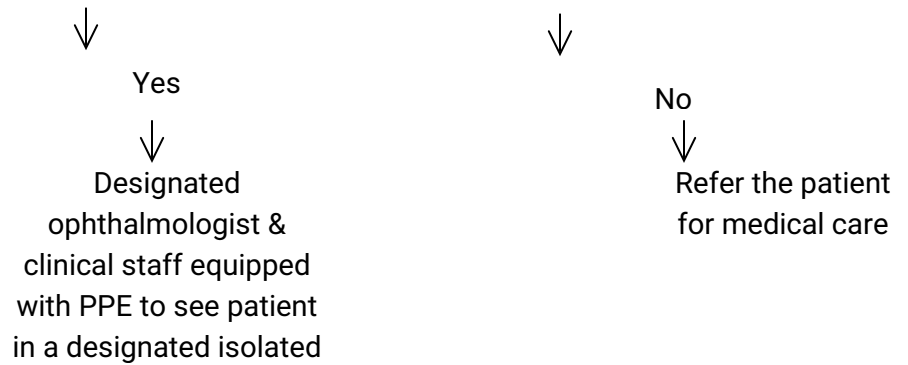
Elective cataract surgeries postponed during the pandemic invariably led to longer wait period resulting in an increase in cataract burden and progression to mature stages of cataract, fear of further loss of sight due to delayed review & treatment, hampering the quality of life and causing disability. Though the human resource of our department are actively utilized in all emergency, routine ophthalmological procedures, active covid management, the exposure to the disease has been well antagonized with standard safety protocols. The picture is well documented in our article.

## (II) ASSAM/INDIA GOVT. ADVISORY REGARDING SAFE OPHTHALMOLOGY PRACTICES IN COVID-19 SCENARIO

1. Eye and facilities in containment zones shall remain closed and only those outside containment zones will be allowed to open up.
2. Basic preventive measures that include simple public health measures like physical distancing, use of face masks, sanitizers, respiratory etiquettes are to be followed by all, as well as self-monitoring of health & reporting of any illness at the earliest.
3. PROTOCOLS FOR OPD SERVICES







Paediatric cases also suffered due to the current pandemic as paediatric surgeries are performed under general anaesthesia which requires a negative RT-PCR COVID-19 report before proceeding .

Ocular trauma cases also presented late due to pandemic induced barriers . Also, emergency trauma cases with unknown covid status poses a risk for infection to the health staff

The findings in our article were in concurrence with similar studies on the impact of covid -19 in Indian ophthalmology setups.<sup>4,5</sup>

## CONCLUSION

Corona virus pandemic has been one of the worst crisis in history of public health which has affected entire spectrum of health care services with ophthalmology being no exception. This pandemic has taught us that with proper care and adequate precautions with increased use of teleophthalmology and utilizing the benefits of digitalization , better patient care can be achieved . Cost management ,increased awareness about public health is the need of the hour.

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