

## Case report

# Is it real Glaucoma progression or something else??

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## Abstract

In India current COVID19 clinical policies direct all health workers & patients need to wear masks throughout the hospital stay & all clinical examinations & diagnostic tests are to be done wearing mask only. Govt health policy do not recommend removal of masks for perimetry also. During COVID 19 pandemic mandatory use of face mask during perimetry sometimes creating visual field artifacts mimicking Glaucoma field progression due to poor fitting of masks. Proper attention during testing, as well as adjusting the mask will prevent such type of artifact and misdiagnosis.

**Keywords:** COVID 19 , Glaucoma

## Introduction

In India current COVID19 clinical policies direct all health workers & patients need to wear masks throughout the hospital stay & all clinical examinations & diagnostic tests are to be done wearing mask only. Govt health policy do not recommend removal of masks for perimetry also. I would like to draw your attention to the type of visual field defect which may mimic “progression” in glaucoma & to repeat this test after applying tape to securely seal the upper portion of masks on all patients undergoing such testing. Poorly fitting masks may also obstruct inferior visual field causing lower peripheral field defects.

## Case Report:

### CASE 1

A 55 yrs old gentleman, known OHT patient on routine follow up visited our OPD on June 2020. His IOP was within target range and disc was normal. On AP(24-2) SITA FAST test on Humphrey Field Analyzer (HFA) he had few peripheral defects in both eyes which were suggestive of early glaucomatous changes. But on repeat test with mask repositioning & taping the upper part of mask with micropore, his field report came out as normal & consistent with previous reports.

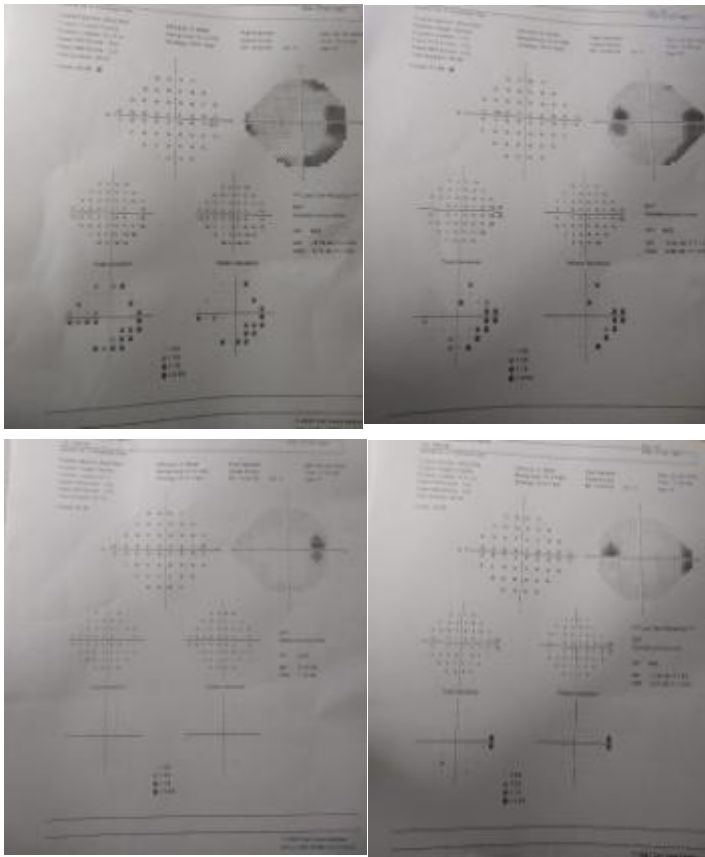


Figure A, B- Upper line – RE, LE HVF (24-2) report before mask alignment

Figure C,D –RE & LE HVF (24-2) report after mask alignment- showing definite improvement

## CASE 2

65 yrs old lady with PACG in RE, 6 months post YAG PI in both eyes visited my opd on July 2020. On AP (24-2) RE showed deep to absolute lower field defects. Lens condensation was also visible on the perimeter lens. So AP test was repeated after properly counselling the patient, sealing the mask with tape and cleaning the perimeter lens condensate. This time most of the defects were gone. LE report was normal after that.

Figure 2A

Figure 2B

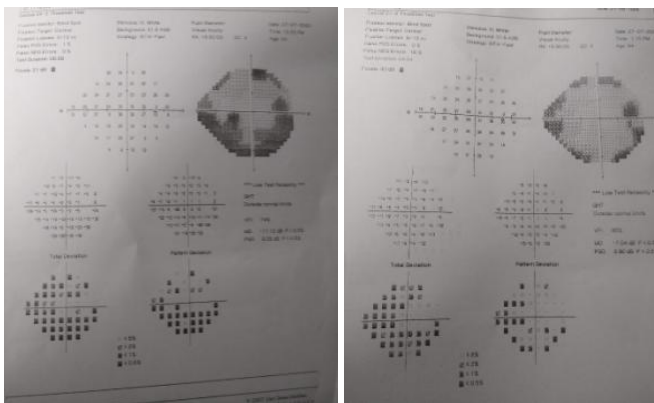


Figure 2A -Before mask alignment, 2B- After mask alignment improvement was found

### CASE 3

In a glaucoma suspect patient of 63 yrs visited us on July 2020 & routine AP(24-2) test showed some peripheral field defects in RE which improved after repeating the test repositioning the mask and the patient was advised to continue same treatment as before.

Figure 3A

Figure 3B

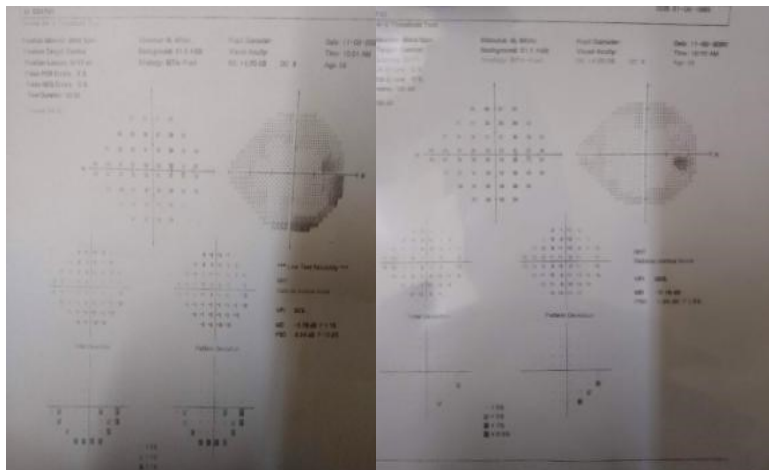


Figure 3A-RE HVF (24-2) showing peripheral defects, Figure 3B- improvement on repeating the test after taping the mask

### Discussion

So in this COVID era if the disease progression is suggested by field tests, we must be aware of this kind of mask related artifacts & we should always repeat the test after securely sealing the upper part of the mask & properly adjusting the fit of the mask. Poorly fitting face masks represent a new cause of visual field artifacts which may mimic pathological field defects. Poor vigilance during testing can give us false impression of glaucoma progression as reliability indices may be normal.

Our finding is a new addition to the list of visual field test artifacts, eg- ptosis, prominent brow, rim or lens artifacts, poor attention, learning curve, fatigue etc which can create artifacts in perimetry. In AAO EYenet 2020 such artifact is documented by David J. Palmer et al from Chicago.(1) Su Ling Yong et al also reported such incidence in their case report.(2) The sealing of upper part of mask by tapes will not only prevent visual field artifacts due to mask malposition, slipping of the mask & condensation artifacts on perimeter lenses and increase the test reliability, it will also restrict contamination due to exhalation.

It is a fact that lens condensation or mask slippage may also interfere with other diagnostic procedures like OCT, auto refraction, A scan, topography, fundus photography etc.

### Conclusion

So I will recommend mask taping by micropore in all patients for diagnostic tests as well as during clinical examinations. This will give dual benefit - prevention of patients taking 'mask break' inside the hospital premises, as well as our diagnosis will no more be masked by COVID 19.

### References :

1. Letter to the editor-AAO EYenet Magazine, July 2020
2. Visual field artifacts from mask use, Su Ling Young et al. J Glaucoma.2020

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