Outcomes of corneal astigmatism correction with opposite clear corneal incisions(OCCI)

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NHS HIGHLAND

INTRODUCTION

There are different options for astigmatic management around the time of cataract surgery particularly to prevent visually significant post-operative astigmatism. The clear corneal incision (CCI) utilised in cataract surgery has a slight flattening impact on the corneal curvature, which can be used to minimise pre-existing astigmatism (PEA). The flattening effect can be enhanced by adding a second, identical, penetrating CCI opposite the first. To flatten the steepest meridian axis, paired opposite CCIs (OCCIs) are placed on it..

AIMS

Aims of this audit were to assess

Effect of opposite clear corneal incisions (OCCI) to reduce pre-existing astigmatism (PEA) during phaco-emulsification.

Optimum patient selection with pre-existing astigmatism (PEA) ,for maximum benefit

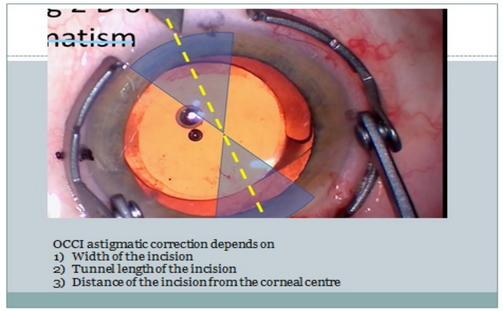
Materials &Methods

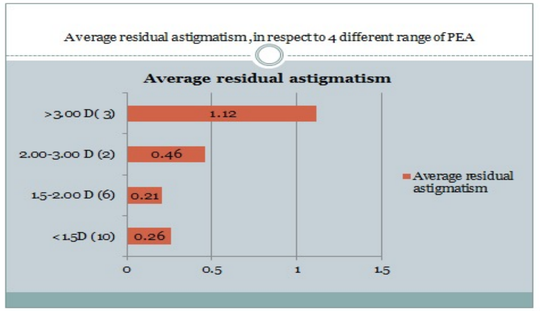
Retrospective analysis of patient records (clinical contact notes and electronic patient record)

Retrospective clinical study of 21 eyes (21 patients) in Raigmore Hospital from June 2019 to December 2020,all are done by single surgeon.

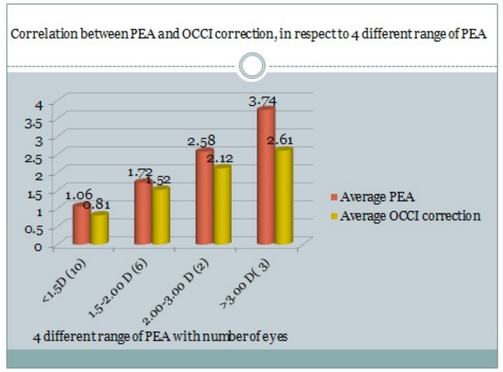
Pre-operative assessment including keratometry guided pre-operative astigmatism was identified. The steep axis was marked pre-operatively. Afterwards ,paired 2.7-3.5 mm OCCIs were made in the steep axis . In our case series paired incision was made during the time of first incision before starting capsulorrhexis. Post–operatively, post-op refraction was used to quantify residual astigmatism. To determine the more accurate effect of the OCCI we would need to compare the pre and post op keratometry, but this was not possible given that we discharge patients back to their optometrist ,even more due to Covid circumstances.

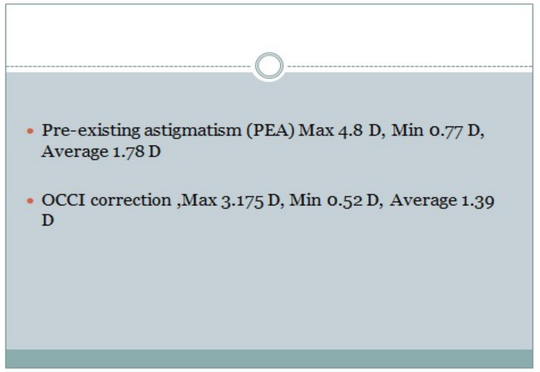
RESULTS





Pre-existing astigmatism (PEA) ,range of 1.50-2.00 D ,to get maximum benefit





To determine the more accurate effect of the OCCI we would need to compare the pre and post op keratometry, but this was not possible given that we discharge patients back to their optometrist due to Covid circumstances.

CONCLUSION

Safe procedure in this small series

Pre-existing astigmatism (PEA) ,range of 1.50-2.00 D ,to get maximum benefit from OCCI surgery.

OCCI could be considered in higher PEA with discussion about tolerable residual astigmatism.

REFERENCES

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