

P-105**IS IT TIME FOR HOME INTRAOCULAR PRESSURE MONITORING TO REPLACE OFFICE-BASED DIURNAL ASSESSMENTS?***A Tatham¹, S Young¹, E Chew¹*¹University of Edinburgh, Edinburgh, United Kingdom**Purpose**

Self-tonometry provides a possible alternative to office-based diurnal intraocular pressure (IOP) assessment, permitting a greater number of measurements without the need to visit the office. The aim of this study was to compare IOP measured during office-based diurnal assessment to measurements obtained from self-tonometry.

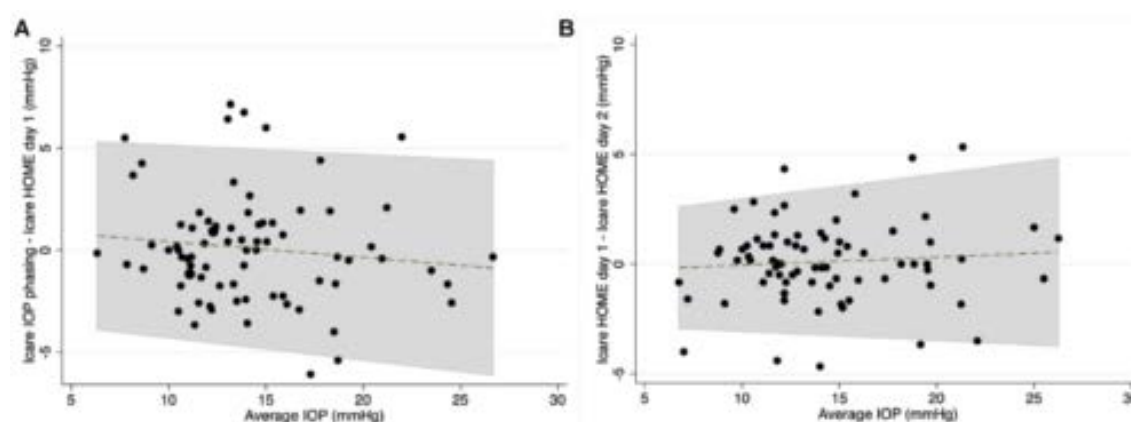
Methods

A prospective observational study involving 74 participants, including 64 with a prior diagnosis of normal tension glaucoma who had undergone medication washout and 10 controls. Baseline IOP assessment was conducted using the Ocular Response Analyzer and Icare HOME rebound tonometer (RT). Following office-based diurnal IOP assessment, participants were taught self-tonometry and asked to measure their own IOP at home at 09:00, 11:00, 13:00, 16:00, 20:00 and 04:00 for two consecutive days.

Results

50 of 64 glaucoma patients (78.1%) were able to measure their own IOP. There was good agreement between home-monitoring and office-based assessment using the RT, with a mean difference and 95% limits of agreement of 0.08 mmHg and ± 4.75 mmHg (at sample mean IOP of 14 mmHg). There was no difference in mean IOP between office and home-monitoring (14.5 ± 4.4 mmHg versus 14.3 ± 4.8 respectively, $P=0.565$) but home-monitoring peak IOP was higher (16.3 ± 5.0 versus 18.0 ± 6.9 , $P=0.004$). Greater IOP fluctuation was observed with home-monitoring (standard deviation 3.2 ± 1.9 mmHg versus 1.7 ± 1.9 mmHg, $P<0.001$). 13 of 50 patients with glaucoma (26%) had a peak IOP at 03:00.

Figure 1. Bland Altman plot comparing mean IOP from phasing using Icare HOME and self-tonometry using Icare HOME on day 1 in patients with 'NTG' (both eyes included) (A) and Bland Altman plot comparing IOP from two days of self-tonometry using Icare HOME (B).

Image**Conclusions**

Self-tonometry is a feasible alternative to office-based diurnal monitoring, with the advantage that a greater number of measurements can be obtained potentially providing a more

complete picture of peak IOP, IOP fluctuation and therapeutic effect. It also has the advantage of providing a means to remote disease monitoring, with the potential to reduce the number or duration of office visits.

References

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