Efficacy and cardiovascular safety of Mydriasert compared to drops for cataract surgery



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Introduction

Mydriasert is an insoluble ophthalmic insert used to induce mydriasis prior to surgery. It results in a gradual release of its active ingredients (Tropicamide 0.25mg and Phenylephrine 5.4mg). It has been shown to result in fewer nurse gestures per patient and could be useful in the current climate to limit patient contact. Previous studies have shown it to have good efficacy as well as cardiovascular safety (McLauchlan et al, 2018, Torron et al, 2013, Morgado et al 2010)

Aim

To assess the efficacy, cardiovascular safety and patient comfort of using Mydriasert compared to the standard drops for mydriasis prior to cataract surgery

Methods

Prospective study of consecutive patients on two cataract lists.
No exclusions based on pre-operative ocular status.
Aim was to start with Mydriasert until n=>25 (whole lists were used) consecutively, followed by routine drops until n=>25 (whole lists were used).
COVID pandemic resulted in a change to patient selection and location of surgery during data collection for drops group. Only cataracts who were eligible for blind registration/ bilateral visual loss/ only eye with dense cataract/ high anisometropia causing significant symptoms. This resulted in a reduced number of included patients for the drops group.

Results

Efficacy and cardiovascular safety of Mydriasert and drops are comparable

	Mydriasert			Drops (pre-COVID-19)			Mean Difference	Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	IV, Fixed, 95% CI	IV, Fixed, 95% CI
Pupil size (pre-op)	8	0.79	25	7.4	1.69	19	0.60 [-0.22, 1.42]	
Pupil size (post-op)	7.9	0.87	25	7.5	1.35	19	0.40 [-0.30, 1.10]	

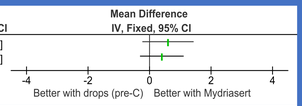


Table 1 Showing pupil size pre and post operatively in the Mydriasert and drops groups.

	Mydriasert			Drops (pre-COVID-19)			Mean Difference	Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	IV, Fixed, 95% CI	IV, Fixed, 95% CI
HR (pre-op)	71.54	15.14	24	73.94	12.19	18	-2.40 [-10.67, 5.87]	
HR (post-op)	71.29	14.32	24	66.44	13.28	18	4.85 [-3.54, 13.24]	
SBP (pre-op)	145.29	18.59	24	146.67	23.15	18	-1.38 [-14.41, 11.65]	
SBP (post-op)	150.62	21.74	24	157.11	21.79	18	-6.49 [-19.79, 6.81]	
DBP (pre-op)	73.7	12.8	24	72.39	16.62	18	1.31 [-7.92, 10.54]	
DBP (post-op)	74.54	16.54	24	80.17	12.7	18	-5.63 [-14.47, 3.21]	

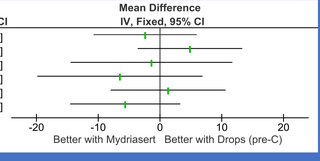


Table 2 Showing cardiovascular parameters of Mydriasert versus eye drops

Limitation

Small sample size
COVID – limited the sample size further
Not randomised/blinded

Recommendation

Results would support testing for difference between Mydriasert and Drops with RCT adequately powered.

Conclusion

Similar efficacy of Mydriasert with eye drops
Cardiovascular safety is comparable between the two groups
Minimal local irritation
May be useful during current climate to limit nurse-patient contact