Supraincisional Stromal Pocket Hydration For Wound Closure In Paediatric Cataract Surgeries

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Background

Paediatric cornea is different and has low sclero-corneal rigidity necessitates suturing corneal incisions after surgery[1].Suture management requires general anaesthesia.

Stability and limitation of astigmatism are important for effective anti-amblyopic treatment in children. Supra incisional stromal pocket hydration technique for wound closure was first described by Wong et al in adult cataract surgeries and in this study we tried this technique for the first time in pediatric cataract surgery wound closures.

Purpose

To study the safety and efficacy of supra incisional stromal pocket hydration technique for wound closure in paediatric cataract surgeries.

Methods

Design: Interventional case series

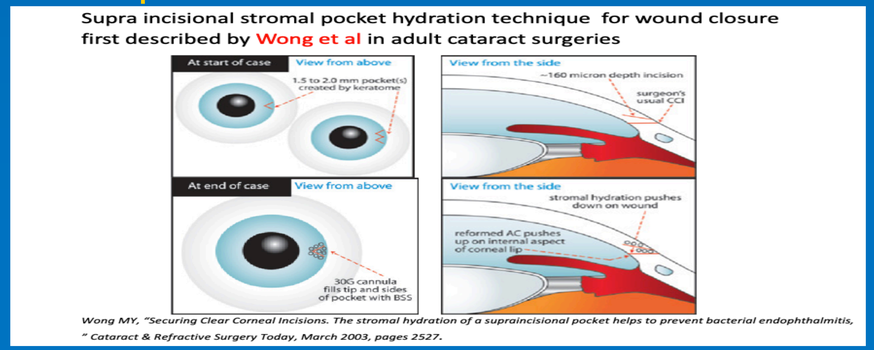
Study Population: 13 cases of congenital cataract were recruited for study

Outcome variables:

1) Presence or absence of *wound leak* after firm direct pressure on the centre of the cornea after supraincisonal hydration

2) *Change in astigmatism* post surgery compared to preoperative readings

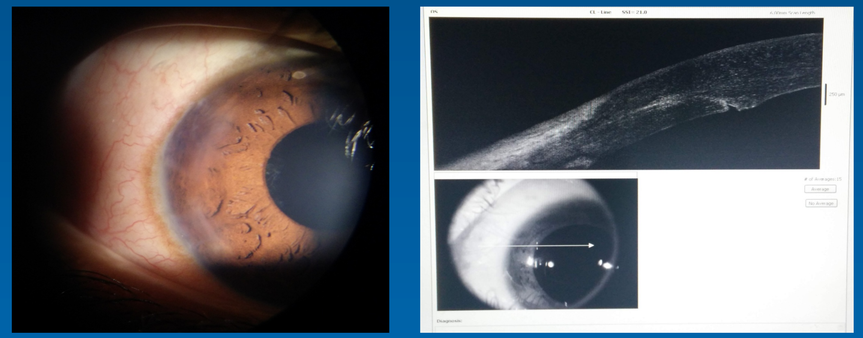
Technique



Demographics	
Total eyes assessed	13
Age (mean)	6.9 (1.2 - 14 yr range)
Sex Male Female	 8 5
Type Of Cataract	Congenital
Follow up	3-12 months

Wound characteristics	Preoperative	Postoperative	P value
Average Keratometry Value(D)	43.34 ±3.1821	43.22 ±3.035	0.9227
Mean Astigmatism (D)	2.3769 ±1.3671	2.03 ±1.1531	0.4911

Wound characteristics	
Pre hydration wound leak	10
Post hydration spontaneous wound leak	Nil
With pressure	nil
Need for suture	Nil
Wound site congestion	Minimal in all 13 cases



Day 1 Post op Slit Lamp and AS-OCT

Conclusions

No evidence of wound leaks with this novel technique

Small sample size & Interventional case series (Limitation)

Minimal induced astigmatism and can help achieve higher precision when using toric IOLs

Minimal wound site congestion

No ocular irritation related to sutures

No need for anesthesia for suture removal

References

1) *Trivedi RH, Wilson ME Jr. Principles of incision construction in pediatric cataract surgery. In: Wilson ME Jr, Trivedi RH, Pandey SK, eds, Pediatric Cataract Surgery; Techniques, Complications, and Management. Philadelphia, PA, Lippincott Williams & Wilkins, 2005; 54–59*