

Orbital implants: Our experience

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Aim: To compare sizing methods and suturing techniques in 2 different groups. Their effect on the results of the procedure.

Abstract: This is a retrospective study conducted between November 2009 to February 2012 at our institution. Where in 16 cases of evisceration / enucleation for various causes done & lost orbital volume had been replaced by orbital implants

Result: Zero rate of implant exposure in group with proper sizing and meticulous suturing.

Introduction:

Orbital Implants replaces volume lost by enucleated /eviscerated eye, impart motility to the prosthesis and maintains cosmetic symmetry to the fellow eye.

Types:

1. **Non Integrated:** Do not allow direct or indirect integration with orbital structures or prosthesis.

Cheaper well tolerated and have fewer complications. E.g. Silicon & PMMA orbital implant.

2. **Semi Integrated:** Have direct integration with Orbital structures but not with prosthesis.

3. **Integrated:** Gets incorporated into Orbital tissues & have attachment with prosthesis through motility pegs.

In our study we used only Silicone implants varying in diameter from 14 to 20 mm.

Material & Methods

This is a retrospective study conducted between Nov 2009 Feb 2012 at our institution. Where in 16 cases of evisceration / enucleation for various causes done & lost orbital volume had been replaced by orbital implants

Patient Selection:

1. Cases of panopthalmitis: 8
 2. Anterior staphyloma & traumatic perforation: 7
 3. Old pthysical: 1
- Age group:
From 10 years to 80 years

Sex

Male 7

Female 9

Eye

Right Eye 9

Left Eye 7

Demography: Sirohi, Pali, Jalore district.

1. In group A (previous group) we have used empirical methods of sizing. After implanting we've sutured sclera & conjunctiva in same direction.

2. In group B we used AXL of fellow eye (AXL-2mm) to calculate diameter of implant needed suturing we have closed sclera with interrupted 6-0 vicryl suture vertically and conjunctiva horizontally.

Sizing of implant & suturing techniques**Group A**

Sr. No.	Age & Sex	RE/LE	Diagnosis	Follow up	
				4 weeks	6 weeks
1.	41/M	LE	Traumatic / Old Perforation	Healthy wound	Nicely healed wound
2.	60/F	RE	Non responding perforated corneal ulcer	-do-	Good
3.	18/M	LE	Injuries in prev. ant. Staphyloma	-do-	Healed wound better prosthesis
4.	55/M	LE	Panophthalmitis	-do-	-do-
5.	50/M	LE	Panophthalmitis	-do-	Healed wound better prosthesis
6.	30/F	RE	Ant. Staphyloma	-do-	Good cosmesis
7.	55/F	RE	Panophthalmitis	Wound gaping & Implant exposure	Good results after resuturing
8.	27/F	RE	Old Pphysical eye	Implant exposure	Has to be explanted

Group – B

Sr. No.	Age & Sex	RE/LE	Diagnosis	Follow up	
				4 weeks	6 weeks
1.	10/F	LE	Total Ant. Staphyloma	Healthy wound (comfortable patients)	Nicely healed wound & nicely accepted implant (Artificial eye given successfully)
2.	40/M	LE	Panophthalmitis	-do-	Nicely healed wound & nicely accepted implant
3.	70/M	RE	Panophthalmitis	-do-	(Artificial eye given successfully)
4.	45/F	RE	Panophthalmitis	-do-	Nicely healed wound & nicely accepted implant
5.	80/F	LE	Panophthalmitis	Healthy wound (comfortable patients)	(Artificial eye given successfully)
6.	60/F	RE	Total melting of cornea	Healthy wound (comfortable patients)	Nicely healed wound & nicely accepted implant
7.	70/F	RE	Sloughed Corneal ulcer	Healthy wound (comfortable patients)	(Artificial eye given successfully)
8.	20/M	LE	Traumatic perforation	Healthy wound (comfortable patients)	Nicely healed wound & nicely accepted implant

Results:

Implant exposure found in 2 cases of inpatients in group A. In one patient we had explanted the sphere and in another resuturing settled the implant.

Discussion:

It is found that sizing the silicone implant using axial length of fellow eye gives better result and less implant exposure than empirical methods of sizing. Suturing the conjunctiva & sclera in crisscross direction than same direction gives additional strength to the wound resulting in decrease in complication rate from 11.5 % to 0 %.

Sara A Kaltreider¹ recommends a preoperative A-scan and placement of an implant with an appropriate diameter to replace 70% to 80 % of the volume removed. Sized spheres may be used to reconfirm the implant diameter, but are not recommended as a precise guideline.

Too often, a fear of implant exposure limits the diameter of implant used^{2,3}. Our study demonstrates that the A-scan is a valuable tool in estimating an appropriate sphere diameter (group-2) and would have prevented oversized prosthetics and exposure.

Conclusion:

Proper sizing of implant is crucial and using axial length of fellow eye to decide it and suturing in crisscross

direction provides additional strength to wound .This reduced complication rate to 0 %. Hence proper sizing and meticulous wound closure minimized the risk of implant exposure.

References

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