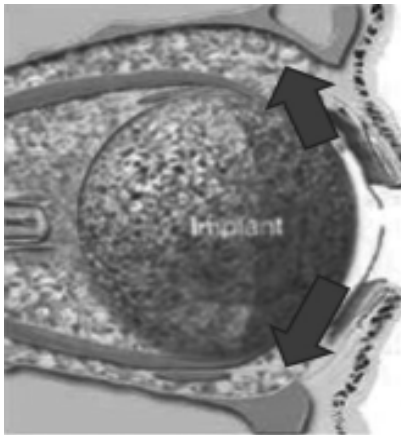


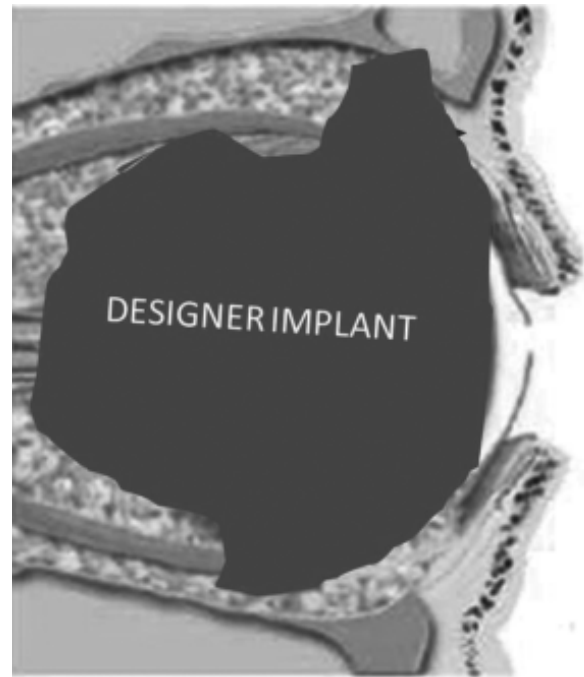
Designer orbital implants

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To be effective, an ocular implant must, reasonably reproduce the volume, position, and motility of the natural eye. It must retain a covering suitable for lubrication, and it must not migrate nor extrude. To add thickness in front of the implant, the anterior Tenon's capsule and conjunctiva can be thickened by placing the implant behind the posterior Tenon's capsule, and sewing-in a scleral cap, or wrapping the implant in a suitable material (fascia, sclera, plastic). Till now spherical implants are the gold standard. The disadvantage with the spherical implant is that each and every eye behaves differently to enucleation or evisceration resulting in an anophthalmic socket. Some will have excess volume to be replenished superiorly, others inferiorly or at the apical portion. A spherical implant when inserted within the socket will try to remain centrally and will not be able to replenish the volume in the cracks and crevices, which is the most sensitive area to refill to give a good cosmetic outcome. This is where we want to describe a new technique of designer implants that is custom made for the patient's socket.



Each and every eye behaves differently to enucleation or evisceration resulting in an anophthalmic socket. Some will have excess volume to be replenished superiorly, others inferiorly or at the apical portion.



Designer custom made implants can replenish adequate volume as well as fill the area in which it has to be replenished.

Material: Medical grade liquefied silicone gel is used for the designer prosthesis. Liquefied silicon is usually available in gel form which is usually cast into the requisite mould of sphere, tube or tyre and kept to solidify at room temperature overnight. It hardens to take the shape of the mould. This is then sterilized to be used during surgery.

Method: The anophthalmic socket is anaesthetized with topical 4% lignocaine hydrochloride. A specially designed cosmetic shell is inserted into the anophthalmic socket. 2-5ml of Medical grade liquefied silicone gel is injected into the socket through the piston of the specially designed confirmor shell. It is continued to be filled till the liquefied silicon oozes out through the outer holes of the confirmor shell. This indicates that the volume within the shell (the volume of the orbit to be refilled) is filled completely and thus obtain the actual shape, size and volume. This silicon mould is then allowed to harden for a few minutes. The mould along with the silicon incorporated within it is taken

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out and left overnight to harden. The next morning the silicon mould is removed from the confirmer shell. Any sharp edges are easily trimmed with a scissor. This is then inserted within the orbit to check for satisfactory fit. Any pressure point or irregular area can be easily shaved off. It is then sterilized and is ready for insertion within the orbit.



Specially designed confirmer with the silicon mold in place. Custom made designer implants.

Results

This is a pilot study. In the initial 6 cases we have tried to examine the outcome of the mould. This has been done by letting the mould pass through various rigorous extremities of pressure, hydration and its capacity to retain its size shape and configuration. The mould was kept under water for 48 hour. A pressure of 300mmhg was applied for 48 hours to access for any change. It passed through all the tests without any problem.

In the next series we have inserted this mould in 3 patients. All three patients were referred for secondary implant in anophthalmic socket (as the primary socket had remained empty at the time of primary procedure). Till date there has been no prosthesis exposure or migration. The volume replacement is very satisfactory. We are keeping a close watch on them. The prosthetic eyes were well fitted in the eye socket using this technique.

Conclusions

Long-term improvement of socket contracture, prosthesis fit, and cosmetic appearance of patients was observed. The prosthetic eyes were well fitted in the eye socket using this technique. Our results demonstrate successful functional and clinical outcomes for treatment of severe anophthalmic orbital syndrome. However, further prospective, long-term studies are recommended.

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