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**Anophthalmic Socket: Clinical Presentation, Complications, Risk Factors, Management and Challenges in Lagos, Nigeria**

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**Background:** An anophthalmic socket is devoid of an eyeball, oftentimes following non - salvageable ocular injuries, severe ocular infections, and intraocular malignancies. It could be associated with unacceptable functional, aesthetic deficits and impaired quality of life. It also constitutes management challenges to the oculoplastic surgeon. Literature is sparse on anophthalmic socket in Lagos, Nigeria. This study aims at assessing the clinical presentation, complications, risk factors, management, and challenges of acquired anophthalmic socket with the goal of providing a data base and suggest appropriate management guidelines

**Methods:** A prospective cross -sectional hospital - based study was conducted between January 2018 and April 2022. All patients presenting with acquired anophthalmic socket

and those operated at the study centre were included. Relevant data on demographics, aetiology, status of sockets and periorcular region, rehabilitation after eye loss, complications at presentation, and management were collected using a proforma. Surgical management guidelines were based on Gopal Krishna Classification and standard reconstruction techniques. Data analysed using IBM SPSS Version 25 (SPSS 25.0, Chicago, IL, USA). Patients' consent was obtained. Study adhered to the Tenets of Helsinki Declaration. **Results:** Fifty-six out of 1,132 oculoplastic patients had acquired anophthalmic sockets (4.9% prevalence). Age range was 3 – 86 years. Among participants, 58.9% were females, and 21.4% were aged 40 - 49 years. Leading aetiology were mechanical trauma (60.7%), severe ocular infections (21.4%) and intraocular tumors (10.7%). Main clinical presentations were contracted socket (25.9%), first time request for prosthesis (18.8%), persistent socket discharge (17.6%), unstable prosthesis (8.2%). Most common complications were upper eyelid ptosis/pseudoptosis (48.9%), chronic mucously conjunctival secretions (61.8%), and contracted sockets (39.3%). Post-operatively, 23.2% had no ocular rehabilitation prior to presentation, 44.9% had stock prosthesis while only 8.7% had customized prosthesis. Risk factors for contracted sockets (Figure 1) included severe ocular trauma

(29.8%), chronic socket discharge (29.8%), repeated socket surgery (18.4%) and 14% those who never wore prosthesis. Contracted socket reconstruction (Figure 2.) was by suture fornix deepening (34.6%), mucous membrane graft (38.5%) and dermis fat graft (26.9%). **Discussion:** Prevalence of anophthalmic socket was 4.9% of all oculoplastic diseases. Females constituted (58.9%). Modal age was 40 - 49 years (21.4%) like Souza *et al*<sup>1</sup> and in contrast to Farokhfar *et al*<sup>2</sup> (20 - 44 years). Trauma (60.7%) as with Musa *et al*<sup>3</sup> (36.2%), Ibanga *et al*<sup>4</sup> (21.2%) and Farokhfar *et al*<sup>2</sup> (33.2%) played leading causative factors of eye loss. Next was severe ocular infections (21.4%), though lower compared to Monsudi *et al*'s<sup>5</sup> finding (40.1%) whose community was agrarian. Intraocular tumors (10.7%) ranked third. Contracted socket comprised 84.6% of all socket complications though higher compared to Ruiters *et al*<sup>6</sup> (53%). Greater scar formation in blacks and deficient ocular prosthesis rehabilitation would explain this. Knowledge of risk factors, challenges such as late presentation which might necessitate more invasive surgeries with associated heightened potential for recurrence of contracture and further repeat surgery is crucial. Adequate knowledge on the management of anophthalmic sockets is essential in planning future preventive measures and provision of best functional and aesthetic needs.

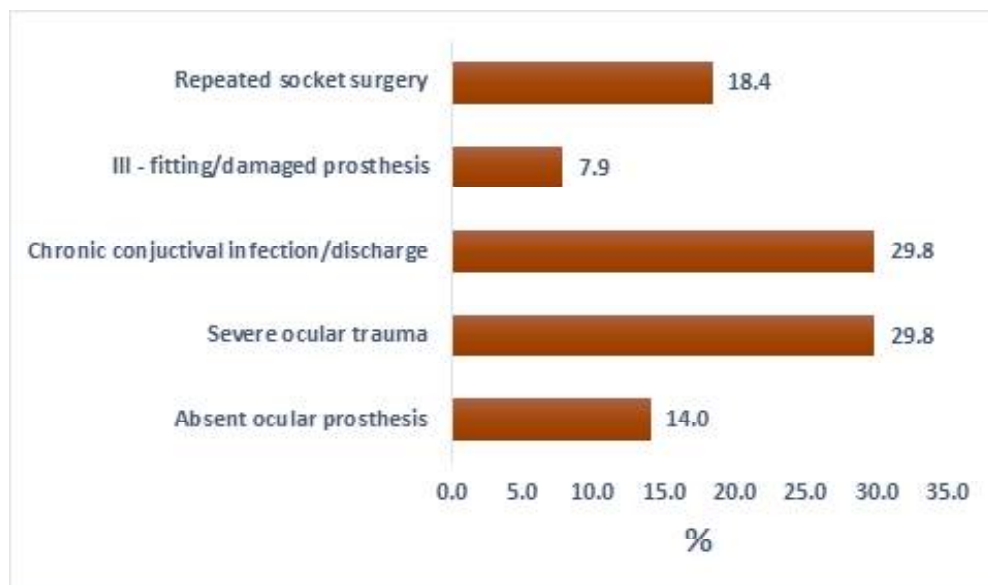
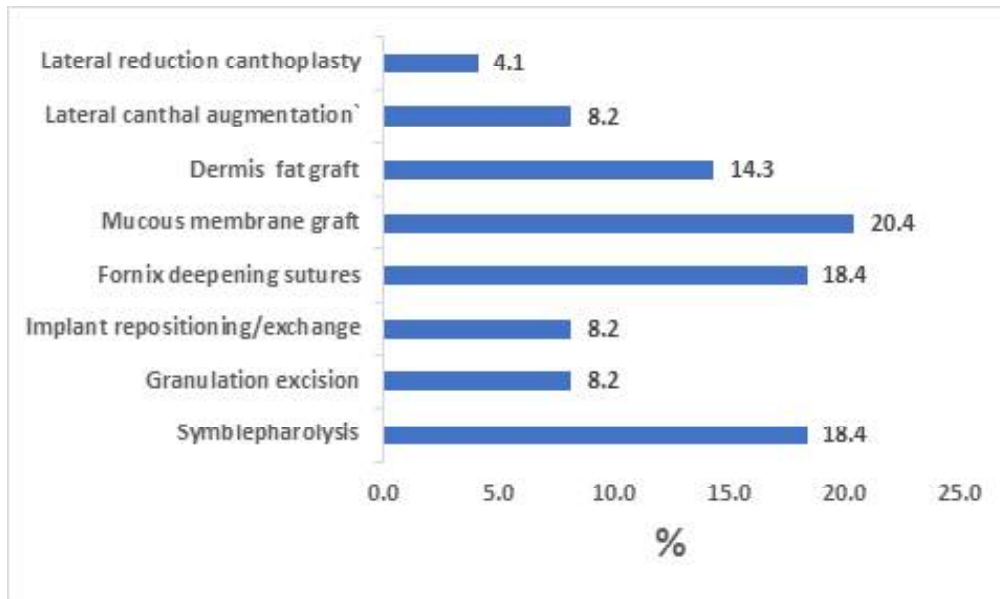


Figure 1: Risk factors for contracted anophthalmic sockets



**Figure 2:** Surgical management of acquired anophthalmic sockets

**Conclusion:** This study has provided a data base on acquired anophthalmic socket, identified risk factors that pose challenges and provided appropriate management guidelines.

**Recommendations:** Appropriate surgical management, orbital implant and ocular prosthesis are essential to provide best functional and aesthetic rehabilitation and minimize complications.

**Keywords:** *Anophthalmic socket, Contracted socket, Evisceration, Enucleation, Ocular prosthesis, Socket reconstruction.*

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