

## Orbital Exenteration in University College Hospital Ibadan: A 10-Year Review

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**Introduction:** Orbital exenteration (OE) is a disfiguring surgical eye removal procedure mostly performed for malignant orbital tumors, and involves removal of the eyeball with the orbital soft tissue.<sup>1,2</sup> However, OE is occasionally performed for non-malignant diseases of the orbit which are refractive to other modalities of treatment, for control of pain, or cosmesis.<sup>3,4</sup> The aim of this study was to report the demographic profile, clinical presentation, histological diagnoses and changing trends in patients who had OE in a tertiary health facility, southwestern Nigeria.

**Methods:** Retrospective review of the medical records of all patients who had eyelid-sparing orbital exenterations over a 10-year period (October 2008 - September 2018) was done.

**Results:** Sixty-eight orbits of 68 patients (M: F, 1.2: 1) were exenterated. Mean age of the patients

**Table 1:** Age distribution of the 68 patients

Age group (years)	Number	Percent
< 10	14	20.6
10-19	3	4.4
20-29	4	5.9
30-39	13	19.1
40-49	13	19.1
50-59	10	14.7
60-69	4	5.9
70-79	2	2.9
80-89	5	7.4
<b>Total</b>	<b>68</b>	<b>100</b>

was  $37.8 \pm 23.4$  years with a peak age in the first decade of life (Table 1). The ocular surface was the most common site of tumor origin in 35 (51.5%) patients, while spread of tumour from within the globe seven (10.3%), paranasal sinus five (7.3%), lacrimal gland four (5.9%), eyelids four (5.9%), and other primary orbital tumours 13 (19.1%) patients

accounted for the remaining cases (Table 2). All patients had computed tomography scan done prior to surgery. Sixty (88.2%) patients had OE for malignant tumours with 32 (47.1%) patients having histological diagnosis of invasive squamous cell carcinoma (SCC) from the ocular surface. The right orbit was exenterated in 36 (52.9%) patients and visual acuity was  $< 3/60$  in 63 (92.6%) eyes. Twenty-eight (41.2%) patients tested positive for HIV, 27 (96.4%) of whom had invasive SCC. The

**Table 2:** Types of tumors in the 68 patients

Type of tumour	Number	Percent
OSSN	32	47.1
Rhabdomyosarcoma	8	11.8
Retinoblastoma	7	10.3
Eyelid SCC	4	5.9
Conjunctival melanoma	3	4.4
Sino-nasal carcinoma	3	4.4
NSOID	3	4.4
Benign lacrimal tumor	2	2.9
Malignant lacrimal tumor	2	2.9
Sino-orbital mucocele	2	2.9
Malignant peripheral nerve sheath tumor	1	1.5
Optic nerve glioma	1	1.5
<b>Total</b>	<b>68</b>	<b>100</b>

OSSN = Ocular Surface Squamous Neoplasia, SCC = Squamous Cell Carcinoma, NSOID = Non-specific Orbital Inflammatory Disease

mean age of the 32 patients with invasive SCC was  $47.5 \pm 15.2$  years, with the mean age ( $43.4 \pm 10.7$  years) of the 27 patients who tested positive for HIV being significantly lower ( $t = 3.226$ ,  $p = 0.027$ ) than the mean age ( $69.6 \pm 17.6$  years) of the five patients who were negative for the viral infection.

The median duration of symptoms before presentation was 13 months (IQR, 15.8 months) and median length of follow-up was 6.5 months (IQR, 12.8 months). Sixty-three (92.6%) patients had direct closure of the orbit with the skin of the eyelids while five (7.4%) patients had primary orbital reconstruction by transposition flap. Post-

operatively, three (4.4%) patients developed sino-cutaneous fistula. Of the 26 patients who commenced adjuvant chemotherapy post-operatively, seven patients (four with invasive SCC, three with rhabdomyosarcoma) completed adjuvant post-operative treatment and were alive and tumor free for varying periods (ranging from 6 months to 74 months) post-treatment; while eight patients (six with invasive SCC, two with rhabdomyosarcoma) of the 34 patients that abandoned further treatment post-operatively developed tumor recurrence.

**Conclusion:** Orbital exenteration is still performed in our center and orbital invasion of ocular surface squamous carcinoma is the most common indication for OE. Most of our patients present late with advanced orbital tumors. Adjuvant chemotherapy increases survival of patients with advanced orbital malignancies post-exenteration, and presumably improves their quality of life. Health education and public enlightenment may reduce the burden of cases of OE in our region.

#### **References**

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