

Cutaneous Horns in an African Population

Background: Cutaneous horns are hard, yellowish gray cornified skin growths. They are more common in white races and believed to be rare in Africans. There are few case reports of the lesion in African populations in the English literature. **Materials and Methods:** This report documents six patients with this lesion seen over a fourteen month period. There were three males and three females, aged 22 to 62 (mean= 47). **Results:** One lesion was on the scalp, the remaining on the extremities. The underlying pathologies were squamous cell carcinoma (1), Kaposi sarcoma (1), cutaneous myxoma (1), eccrine poroma (1) and the remaining two showed only chronic inflammatory changes with subepidermal lymphocytic and macrophage cell infiltrates. **Conclusion:** Unless cases are well documented, the perception of rarity in Africans will most likely persist. The risk of underlying malignancy underscores the need for detailed evaluation and prompt management.

KEYWORDS: Cornu cutaneum, cutaneous horns, horns, squamous cell carcinoma

INTRODUCTION

Cutaneous horns are cornified skin growths shaped in the form of a horn. However, they differ from true animal horns in not having a bony core.^[1-3] They vary in shape and sizes. Like other noninfective skin lesions, they are common in the Caucasian and Asian races but reportedly rare in people of African descent.^[4] This racial predilection can be attributed to the relative protection the pigmented skin enjoys from ultraviolet sun rays. This also correlates with the racial distribution of other skin lesions that are related to actinic damage. The relative anatomic distribution of the lesions similarly is also remarkably related to the relative exposure of different parts of the human body to sun rays. Over 30% of these lesions are seen in the head and neck region.^[3,4]

The earliest report of 1558 describes a commercial exhibition of the photograph of a patient with this morphologic entity as a curious anomaly of nature.^[5,6]

Several documentations have appeared thereafter detailing its clinical appearances and pathobiology, including the possible risk of underlying malignancy, in the English literature. However, there is relative paucity of information on this entity in Africans. The first documentation from Africa was of an Arab and was related to a previous scalp burn.^[4] While probably not as rare in blacks as thought, the only case reported so far from Nigeria, in the English literature, was of a female farmer who had this lesion on the sole of the foot and was related to a cutaneous myxoma.^[7] Since then, five additional cases have presented to the author in the plastic surgery services of the University of Benin Teaching Hospital, Benin City. These form the basis of this report, to draw attention to a probably neglected entity. It would appear they are not as rare as previously thought. A brief review of the literature is undertaken to familiarize medical practitioners with this pathologic entity. It is pertinent also for surgeons in the region, and in general, to be aware of the possibility of some underlying malignancy so as not to treat it as being innocuous.

MATERIALS AND METHODS

Six patients managed by the author at the Burns, Plastic and Reconstructive Surgery Unit, University of Benin Teaching Hospital, Benin City, Nigeria, form the basis

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of this report. The patients were seen from January 2010 to February 2011. A record was made of the patient demographic data, race and skin type, the site of the lesions, duration of symptoms, prior treatment if any, and the histopathology of the base of the lesion. Diagnosis was clinical in all cases. Basic investigations carried out were patients' hematocrit and blood sugar levels. All excisions were done under local anesthesia using 1% lidocaine with adrenaline except in the digits where plain lidocaine was employed. Where a split thickness skin graft was needed, this was taken with a field block. The defects were closed either directly or with a split thickness skin graft depending on the size of the base of the lesion and laxity of the surrounding tissue. All the specimens were examined histopathologically. All but the last patient have been followed up for over 6 months.

RESULTS

There were six patients, three males and three females giving a sex ratio of 1:1. The age ranged between 22 and 62 years, with a mean of 47. Two patients were in their 20s, and the remaining four were over 50 years. All the patients were Nigerians. None was an albino. The lesion was on the scalp in a male patient aged 62 years [Figure 1]. The remaining five lesions were located on the extremity: lower limb (3), upper limb (2). The scalp lesion had underlying squamous cell carcinoma [Figure 2], while the toe lesion had a background of Kaposi sarcoma [Figures 3 and 4]. Others were cutaneous myxoma (1), eccrine poroma (1) [Figure 5], and 2 showing only chronic inflammatory changes. No adjuvant therapy was given. There has been no recurrence.

DISCUSSION

The clinical diagnosis of cutaneous horns is simple, based only on the morphologic resemblance to an animal horn. In all the cases, the diagnosis was made at first contact. Mc Grouther^[6] provides an excellent illustration of a sebaceous horn of the scalp which should be familiar to medical students and practitioners alike. He however described this as desiccated secretions from the orifice of a sebaceous cyst. This is not always the case. Neither are these horns always of sebaceous origin. Rather, they are highly keratinized concretions which protrude above the surface of the skin.^[8] They are also not always horn shaped. The lesion may also be flat, nodular, or crateriform although attempts have been made to define it as a compact mass of keratin whose base height is at least half of the base diameter.^[8-10] This is evident in the scalp lesion illustrated here.

Although the series are few in number, it is evident that unlike in the Caucasians, younger patients are not exempt from this uncommon pathology. Two were in

their 20s. While repeated trauma may be adduced as plausible etiological factor for the male with a foot lesion, the same may not be so easily accepted by the lady with a lesion on the forearm. However, her lesion was located at a site subject to friction in normal life, being just proximal to the extensor surface of the elbow [Figure 6]. Repeated trauma as a strong etiological factor in our series may be alluded to further given the fact that all lesions but one are located in the extremities, mostly at sites so exposed.

Beyond the curiosity is the more serious fact that the lesion may sit atop a malignant base.^[1,3,6,8] In this series, two were malignant (33%). This is often not detected clinically. Thus, it is essential to subject the lesions to histology after adequate excision. Certain risk factors for malignancy have been elucidated. These include a large size, a wide base relative to height, tenderness at the base, advanced age, and the male sex.^[11] The two lesions showing malignant features occurred in males and had relatively broad bases. However, no clinical feature(s) reliably discriminates benign from malignant lesions. Half of the lesions are said to be benign, about a quarter premalignant (actinic keratosis), and 20-25% malignant.^[1,11,12] This is however reported in a series of Caucasians. Until a large series of Africans is studied, the exact proportions in this race remain uncertain. Mantese *et al.*^[3] in their series of 211 patients characterized 33 as nonwhites. Eighteen (54.55%) of these had premalignant lesions, 12 (36.36%) were benign, and only 3 patients (9.09%) had a malignant base pathology. Other premalignant and malignant diseases associated with cutaneous horns include actinic keratosis, basal cell carcinoma, malignant melanoma, Kaposi's sarcoma, Bowen's disease, Paget's disease, sebaceous carcinoma, and a case of metastatic renal cell carcinoma.^[6,13-15]

In four of our patients, the base pathology did not show any evidence of malignancy. This is a common trend in most series. Cutaneous horns have been associated with several more common benign lesions such as angiokeratoma, angioma, benign lichenoid sclerosis, dermatofibroma, discoid lupus, epidermal nevus, keratoacanthoma, granular cell tumor, pyogenic granuloma, sebaceous adenoma, seborrheic keratosis, trichilemmoma, cutaneous myxoma, inverted follicular keratosis, and infective skin conditions like the verruca vulgaris, pyogenic granuloma, molluscum contagiosum of the pox virus, and cutaneous leishmaniasis.^[6,7,13,14] Although no histologic description of a specific infective condition was reported in any of our patients, there were descriptions of subepidermal chronic inflammatory infiltrates mainly of lymphocytes and macrophages in two. This however does not necessarily imply an infective origin. In the fifth patient, the base lesion was a cutaneous myxoma and the other was an eccrine poroma [Figure 5].



Figure 1: Cutaneous horn on the scalp of a 62-year-old man. The base of the lesion was a squamous cell carcinoma

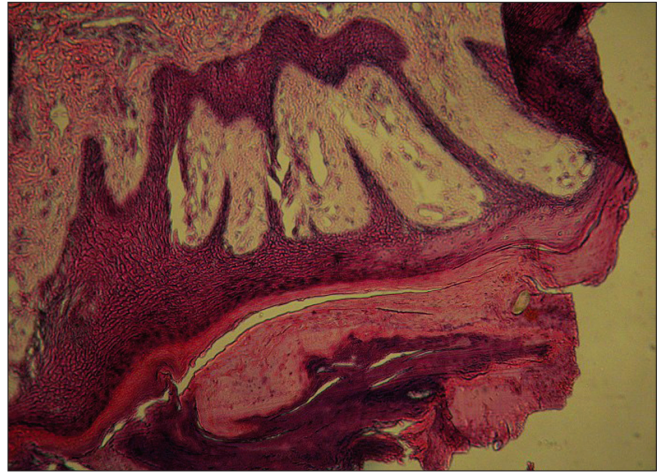


Figure 2: Cutaneous horn showing hyperkeratosis, parakeratosis, prominent rete pegs, and prominent mitotic figures with dermal invasion



Figure 3: Yellowish gray horn arising from the eponychium of the big toe

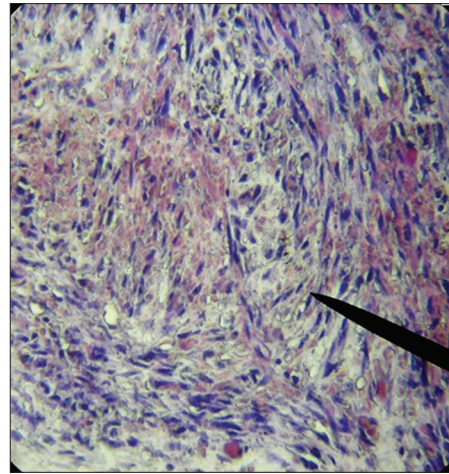


Figure 4: Kaposi sarcoma: Malignant neoplastic lesions with spindle shaped cells infiltrate in the dermis separated by slit like spaces filled with red blood cells

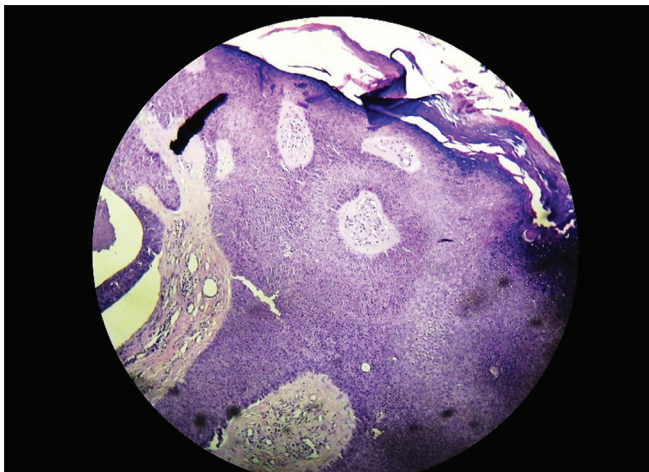


Figure 5: Eccrine poroma: Section of the skin showing a lesion composed of relatively uniform basaloid cells that are arranged in nodules and columns extending from the epidermis to the dermis



Figure 6: Horn on the extensor surface of the forearm

In our series, the treatment modality is surgical excision with macroscopic free margins and histopathology of the lesion. This is often adequate being diagnostic and therapeutic and remains the treatment of choice.^[6] The surgical defects were usually amenable to direct closure or resurfacing with skin grafts. In the patient with squamous cell carcinoma, the excision margins were free of tumors and regional nodes were not clinically involved. He is still on follow-up in the outpatient clinic. An inadequate margin should prompt further excision. A search should also be made for local or distant spread. Where facility is available for frozen section histology, shave excision has been employed with satisfactory results. This becomes invaluable when the lesion is present on cosmetically sensitive part of the body like the medial canthus of the eyelid. Other modalities such as electrodesiccation, laser ablation, and cryosurgery have also been described.^[16] This may suffice for benign lesions. Valuable information on the margins may be lost with these alternatives.

CONCLUSION

Cutaneous horns are probably neglected and are not rare as thought. The propensity for malignancy at the base also exists in blacks and should be sought when the horns are seen. In the face of scarce resources, excision biopsy is adequate. Health care givers should refer cases to the surgical service as soon as possible. The surgeon should also search for evidence of spread when malignancy is detected. Furthermore, follow-up should be adequate for which a period of 3 years has been suggested.

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