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SQUAMOUS CELL CARCINOMA OF THE SCROTUM: CASE REPORT

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ABSTRACT

Squamous Cell Carcinoma of the Scrotum is considered as one of the first occupational malignant tumours of the scrotum. Discovered by Sir Percivall Pott. Long term contact with Tar and coal and petrochemicals and chronic inflammatory scrotal lesions are considered as one of the important inflicting factors. A 70-year-old male presented to the medical clinic with a hard spiky scrotal lesion underwent wide-local excision of the same. Histopathology revealed verrucous hyperplasia with hyperkeratosis and squamous cell carcinoma in situ. Treatment options included wide excision with strict follow up for local and/or lymph node.

KEYWORDS: Occupational, scrotum, carcinoma, hyperplasia, squamous.

INTRODUCTION

Malignant tumours of the scrotum are rare. However Squamous cell carcinoma of the is the most common form of malignant tumours of the scrotum. Three major causes are known including Occupational, Hyegenic and drug induced causes. Historically the earliest accounts of scrotal squamous cell carcinoma (SCC) date back to the Persian nomads who used to transport pots of burning coal between their legs to keep warm as they travelled. Sir Percivall Pott in 1775 discovered its unusually frequent occurrence in chimney sweeps hence described as an occupational disease.[1,2]

Poor hygiene plays a role for SCC. Chronic infected scrotal epidermoid inclusion cysts predispose to SCC.[3] Although malignant transformation of inclusion cysts is uncommon cysts and neglected proper medical management were reported as causes of SCC. HPV infection plays an important role for the SCC.

Drug induced cases of SCC were encountered among patients with Psoriasis managed by UV therapy or, Radiotherapy or psoralin.

In addition to the above mentioned risk factors a chronically infected scrotal lesions like epidermoid epidermoid cyst although very rare, there are few reported cases of SCC occur in a longstanding epidermoid sebaceous cyst of the scrotum. In addition SCC can occur in the genital skin following long standing skin lesions.[2,4]

Despite the great reduction of its incidence due to the reduction of the occupational risks the condition still remains the most common primary scrotal malignancy with a significant morbidity and mortality if not treated early.

CASE REPORT

Written agreement consent was obtained from the patient for publishing this medical condition including the photos.

A 70-year-old male, a retired teacher, residing in Rania, an Urban district at the north of Iraq since 2014; and originally he was from Mosul city.

The patient presented to the private clinic on May, 28th 2017 with a complain of a large lesion on the scrotum. The condition was dated back for approximately 6 years prior to consultation. He had noted a small painless whitish hard mass at right side of the scrotum. The patient reported a progressive enlargement over time recurrent painful episodes. and a repeated foul-smelling discharge after 2 years from the initial presentation. He managed the lesion medically by himself with local antibiotic ointment and analgesic therapy without medical consultation. The patient noticed a gradual increase in its size over a long period of time. (Photograph 1).

Photograph 1: External appearance of the studied scrotal mass.

He consulted a general surgeon in 2015 that diagnosed the condition as a large sebaceous cyst and advised the patient to perform a surgical excision but he refused and continued on repeated self-induced therapy by various oral and topical antibiotics and analgesia. In the mid of 2017 the patient started to notice a progressive enlargement of the lesion with ulceration and a cornified mass projecting from the lesion described by the patient as (a woody mass) from the lesion gradually increasing in size. This is associated with an itching sensation in the scrotum. The progressive alteration in the progress of the lesion compelled him to for a medical advice.

Past medical history revealed that the patient is type II diabetic on Glibenclamide and Metformin, hypertensive on Amlodepine. Past surgical history is positive for left inguinal hernia repair in 1985. The patient is heavy smoker, not alcoholic and no drug allergy.

Examination revealed a single rounded mass lesion of about 4×3 cm occupying the inferior aspect of the right hemiscrotum. The margin of the lesion consisted of a pale rim and a tender, hyperemic periphery. The center of the lesion was occupied by a large milky coloured stony hard cornified lesion with multiple spiky projections. The remainder of the scrotum was normal. The right and left testes, and cords were normal with no associated inguinal lymphadenopathy, the penis was normal as well. The rest of the general physical examination were unremarkable. (Photograph 2).

Photograph 2: Clinical examination revealed a single lesion of about 4×3 cm on the right hemi-scrotum with multiple spiky projections.

Superficial ultrasound evaluation of the scrotum including Doppler study revealed thickening of the scrotum at the site of the lesion with no other abnormalities. Ultrasound evaluation of the abdomen was negative for any lesions or lymph nodes involvement.

A clinical diagnosis of a complicated sebaceous cyst had been made and fully discussed with the patient after completing evaluation regarding the medical possibilities and the treatment protocol. The patient refused local biopsy and requested to proceed with surgery directly. A surgical excision was decided and a special consent of agreement obtained from the patient. The surgical procedure was performed in Mediano private hospital/ Erbil in June, 8th, 2018. (Photograph 3)

Preoperative ceftriaxone antibiotic given 1gm intravenously. Local infiltration anesthesia of the scrotum performed. Wide excision of the whole mass with 1cm safety margin excised also. The patient discharged well after 2 hours and kept on cefuroxime 500 mg tab once daily and paracetamol twice daily for five days. The patient reported no postoperative complications.

Histopathology examination of the mass revealed Verrocous hyperplasia with hyperkeratosis and squamous cell carcinoma in situ.

Photograph 3: Surgical excision of SCC.

DISCUSSION

Squamous cell carcinoma was the first tumor to be linked with occupational hazard.[1,2,3,4] The great reduction of the SCC incidence worldwide is due to the reduction of the occupational risks.[5] However, it still remains the most common primary scrotal malignancy and the most common malignant skin tumour with a propensity for recurrence and metastasis.

The two important implicate factors next to the occupational hazard are iatrogenic and infective.[4,6] Luckily occupational causes for scrotal carcinomas are rare recently. This is most probably due the improved occupational precautions and reduction of such carriers. Recent studies state that the incidence of SCC of the scrotum is approximately 95 per million.[7] Few SCC cases have been reported secondary to an infected epidermoid sebaceous cyst. Chronic infection and chronic irritation were well known causes for the pathogenesis of scrotal SCC. Among the infective causes chronically infected sebaceous cyst however it is extremely rare.[3,6]

The case under study had been diagnosed as an infected sebaceous cyst, according to the accompanied medical data, five years ago. But patient's embarrassment deferred him from seeking medical help at that time. A like problem, advanced medical situations due to the delayed medical attendance by the patients, is frequently faced by the working medical staff. Embarrassment and/or ignorance or financial issues are probably the causes.[8]

Sebaceous epidermoid cyst arises as a firm nodule on the scrotal skin.[9] Histologically epidermoid cysts are well encapsulated cyst and histologically characterized by a cystic lining of stratified squamous epithelial cells of the scrotum. Epidermal cysts are filled with sebaceous and keratinous masses and containing elements of hair follicles.[9,10] Repeated infection and discharge occur over a long period calcification might occur resulting in a hardening status an known as scrotal calcinosis.[10,11] Important risk factor for infection is diabetes mellitus.[10] The presented case was diabetic. Characteristically the complaint is woody hard mass that gradually but slowly increased in size. Upon examination the mass was 4 cm by 3 cm in diameter situated in the right hemi scrotum with characteristic multiply spiky corn like projections from the lesion. The size within the range mentioned in a report conducted by Uwe Wollina et.al revealing that the size of the lesions ranged from 1.5 to 10 cm (mean 5cm).[4,10]

The appearance of the mass raised the suspension of a possible malignancy. So, ultrasound evaluation of the inguinal region and the pelvis, chest X-ray and CT scan of the abdomen were requested. Imaging diagnostic studies for metastasis are important to rule out metastasis including ultrasound evaluation of the scrotum, inguinal regions for possible local spread and lymph node invasion.[11] The patient requested to proceed with the definitive surgical management. Surgical excision is mandatory and was performed with a safe margin of 2 cm.

The mainstay for the management of such case is a surgical excision with a safe margin of 2 cm.[1-5] Deep excision including the testis and the cord is not indicated unless deep extension of the tumor is noted. Intra operative frozen section is indicated only if deep extension of the tumor.[5] Radical lymph node dissection is indicated if lymph nodes are involved by metastasis and confirmed by preoperative evaluation.[5] A proper staging and latter follow up are very important. Dean states that prophylactic lymph node dissection is not mandatory in negative lymph node patients.

Histopathology study revealed Verrocous hyperplasia with hyperkeratosis and squamous cell carcinoma in situ. Verrucous hyperplasia (VH) is defined as a premalignant exophytic mucosal lesion with a predominantly verrucous or papillary surface can subsequently transform into verrucous carcinoma,[12] this lesion is mostly predominant in the oral cavity, however scrotal involvement might occur. Adjuvant chemotherapy has been utilized in advanced stage and metastatic disease. Systemic chemotherapy is also indicated for inoperable scrotal SCC.[13,14]

Regular follow up is mandatory as recurrence is expected. The presented patient has been followed three-monthly during the first 12 months after surgery. There was no evidence of recurrence. Malignant transformation of epidermal cyst into cutaneous squamous cell carcinoma was reported among very few cases of scrotal SCC (range between 0.011and 0.045%).[3] However, in general, the prognosis correlates with the presence or absence of nodal involvement. If the inguinal nodes are involved the 5-year survival rate is approximately 25%.[5]

CONCLUSION

Chronic irritation or bacterial infection of an scrotal epidermoid cyst with improper management for any reason plays a significant role in the pathogenesis of SCC.

RECOMMENDATIONS

The current study recommend that strict medical advice and care with scheduled follow up are highly recommended for such conditions.

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