ORIGINAL RESEARCH PAPER | Medical Science | Volume : 6 | Issue : 8 | August 2016 | ISSN - 2249-555X | IF : 3.919 | IC Value : 74.50

Granular Cell Tumor of Vulva: A Rare Case Report in an Unusual Location

KEYWORDS: Vulvar tumor; Granular cell tumor; Follow-up

Dr. Udasimath. Shivakumarswamy MD, DNB,MNAMS (Pathology)
Associate Professor, Department of Pathology, Hassan Institute of Medical Sciences (HIMS), Hassan –573 201, Karnataka. INDIA

Dr. Padma.S.R. DCH
Lecturer, Department of Pathology, Hassan Institute of Medical Sciences, Hassan

ABSTRACT *Granular cell tumors (GCTs) are rare, usually benign, soft tissue tumors of neural origin. They can occur anywhere in the body with up to 15% situated in the vulva. Malignancy has been reported in about 2% of cases. We report a case of a 65-year old woman who presented with a vulvar growth with 2 years duration. The physical examination revealed a hard, mobile, nodular subdermal mass. The histopathologic examination revealed a granular cell tumor without features of malignancy. Recurrence rates are 2%-8% with clear margins and 20% with positive margins. We conclude that intraoperative assessment by frozen section is advisable such that further excision can be performed for positive margins. Once diagnosed with a granular cell tumor, the patient must be counselled to follow-up regularly.*

INTRODUCTION:

In 1926, Abrikossoff, first described Granular cell tumors (GCTs). GCTs are rare. They are benign soft tissue tumors of neural origin and can occur throughout the body in any age or race [1]. Common sites for GCTs are in the skin, submucosal or subcutaneous tissue of the head and neck, especially in the tongue and oral cavity. They have also been reported in the ovary, uterus, cervix, vulva, vagina, mons pubis and episiotomy scar [2] Vulvar involvement has been reported in 7%-15% of cases. The peak age incidence is in the fourth to fifth decades and occur more often in females than males and in blacks than whites. In a review study by Kardhashi et al GCTs are benign in 98% of cases with 2% reported as malignant [3]. They generally present as small, slow-growing, solitary and painless subcutaneous nodules [4]. There have been reports of GCTs which are aggressive with multicentric or metastatic disease and can be [2, 3]. We report a case of vulvar benign GCT

Case History:

A 65-year-old postmenopausal woman presented with a 08 year history of a "vulval growth". She had no history of tenderness, discharge or any bleeding from that area. She denied history of previous vulvar lesion or systemic symptoms. As the lesion was asymptomatic, initially patient was resistant to surgical excision. After explaining the consequences of the lesion she agreed to the excision. Vulval growth measured 2.8 cm × 2.3 cm. It was mobile, non-tender and hard. The lesion was situated on the left labium majus, midway between the anal verge and the anus. There was no regional adenopathy. She underwent an excision biopsy of the mass under general anesthesia. Cut section of the surgically excised lesion showed a gray white, firm, solid, fleshy tumor area. Growth extended up to the superficial dermis. (Figure 1A). Histological examination showed a circumscribed dermal tumor, composed of sheets and nests of large polygonal bland cells, irregularly infiltrating between collagen bundles. Cells have voluminous granular, eosinophilic cytoplasm and uniform-looking round to oval nuclei with prominent nucleoli. Resected margins were free from tumor area. The patient is currently on follow-up and there have been no signs of recurrence. On the follow-up appointment 2 months after the excision procedure, the patient was asymptomatic and presented a complete healed scar with no induration.

DISCUSSION:

GCT was described by Abrikossoff as granular cell myoblastoma in 1926 [5]. The mean age range in the literature is 30–50 years [6]. Some authors have suggested a familial link. In one case series, three out of five cases had a history of soft tissue tumors in family members. However, most cases are sporadic and possibility of familial link needs to be investigated further. GCTs are generally small, firm, solitary nodules that are whitish in color, lack encapsulation and are located in the subcutaneous layer. Usually lesions are mobile and the overlying skin may be depigmented, occasionally ulcerated or may be thickened with a "cobblestone" appearance. The most common location of GCT in the female genital tract is on the labium majus. They are typically slow-growing and usually asymptomatic, and are sometimes confused with sebaceous cyst. On cross-section, the tumor is usually solid, poorly circumscribed with irregular margins and pale white appearance with firm consistency. However there have been reports of GCTs of the vulva, which are aggressive with multicentric or metastatic disease and can have fatal outcomes. The incidence of multicentric lesions ranges from 3% to 20% and this raises the suspicion of malignancy [5].

Microscopically, GCTs are poorly circumscribed and composed of loosely infiltrating sheets or clusters of large round or polygonal spindled cells with abundant eosinophilic cytoplasm with intracytoplasmic granules (Fig. 2) The main morphologic feature is the granularity of the cytoplasm caused by massive phagolysosomes accumulation [4,5,7]. The granules typically stain positive on periodic acid-Schiff (PAS) stain with diastase-resistant pattern. The nuclei are characteristically uniformly small and centrally located with prominent nucleoli. Pseudoepitheliomatous hyperplasia of the overlying stratified squamous epithelium is commonly seen in many cutaneous lesions, and this may be incorrectly diagnosed as squamous cell carcinoma. The resected margins should be adequate to prevent a misdiagnosis. Recurrence is more likely if the edge of a GCT

Volume : 6 | Issue : 8 | August 2016 | ISSN - 2249-555X | IF : 3.919 | IC Value : 74.50

had an infiltrative and ill-defined pattern, as compared to one with nodular and distinct edges, even with negative margins. However, in a case series of GCTs in the musculoskeletal system by Rose et al., resection margins or depth of tumor had no correlation with the risk of malignancy or recurrence [5].

Nuclear enlargement, hyperchromatism, pleomorphism, mitotic activity or increased cellularity is elements of the malignant variant of this tumor. In 1998, Fanburg-Smith et al. proposed six histologic criteria (necrosis, spindling, vesicular nuclei with large nucleoli, increased mitotic activity, high nuclear-to-cytoplasmic ratio and pleomorphism) for the classification of granular cell tumors into benign (none of the criteria or focal pleomorphism), atypical (1–2 criteria) and malignant (3–6 criteria) forms. They also found that granular cell tumor are tested positive for immunochemical staining for S-100 proteins (98%), vimentin (100%) and neuron-specific enolase (98%) Malignant GCTs are often immunohistochemically negative for S-100 protein, neuron specific enolase and vimentin. However, the distinction between benign and malignant GCT is difficult because of histologic similarity and lack of reliable criteria that can predict clinical behavior. A third type of GCT has been described which has benign pathologic characteristics but behaves in a clinically malignant manner [7]. Ultrastructural features that were typical of malignancy included engorgement of the cytoplasm with complex granules and a distinct nuclear pleomorphism. The proliferation-index with Ki67 and immunostaining for p53 overexpression were significantly higher in atypical and malignant tumors as compared to benign tumors [7, 8]. In this report, the tumor was not associated with metastases or mortality.

GCTs may be difficult to distinguish from granular cell variants of basal cell carcinoma, melanoma, leiomyoma, leiomyosarcoma, dermatofibrosarcoma, angiosarcoma, fibrous histiocytoma, and ameloblastoma, if examined with routine light microscopy alone. Immunochemical stains will help to distinguish it from other differential diagnoses as it stains negative for desmin, cytokeratins, epithelial membrane antigen and glial fibrillary acidic protein [9].

Clinically, features associated with poor prognosis include rapid tumor growth, older age, and tumor size more than 4 cm, vascular invasion, necrosis and local recurrence. Malignant variety is very aggressive with regional and metastatic spread and poor response to radiotherapy and chemotherapy. Metastases can occur via lymphatic spread to regional lymph nodes and hematogeneous spread to liver, lungs and bones [11]. The treatment of choice for all types is wide, local surgical excision. In the malignant form of GCT, radical local surgery with a view for regional lymph node dissection should be carried out, if there are no distant metastases. Because the tumors often have irregular margins and groups of tumor cells often extend beyond the macroscopic limits of growth, wide excision is necessary to decrease the risk of recurrence. Local surgical excision, if complete, is curative for benign GCT. Depending on the position and size of the tumor, wide excision may be complex with risks of blood loss and scarring. Therefore, incomplete excision is not uncommon [12]. Recurrence rates are 2-8% with clear margins and 20% with positive margins. Therefore some authors advocate repeat sectioning with fresh horizontal frozen tissue mapping until clear margins are achieved. In the event of positive margins, some authors recommend re-excision [12]. However, reexcising a tumor in this area should be carefully considered because of the greater morbidity, compared with excision in other areas of the body [13]. The surgical specimen in our case had negative margins and patient remains under careful observation for any local recurrence or regional lymphadenopathy.

CONCLUSION:

Although GCTs of the vulva are uncommon and mostly benign, they have a tendency for local recurrence. Some of these cases may be multicentric at presentation, so during follow-up, extragenital areas, such as oral cavity and trunk, should be evaluated. In rare cases metastases or malignant transformation can occur. Wide local excision is the treatment of choice. Hence it is important that gynecologists and pathologists are aware of the clinical presentation and histopathology of this condition for appropriate management, counseling and follow-up. Once diagnosed with a GCT, the patient must be counselled to follow-up regularly with physical examinations. They should inform the physicians if any growth recurs at the excision site or if any nodular growth develops elsewhere on the body.

Fig. No-1: Cut section of the vulvar growth showed a gray white, firm, solid tumor area.

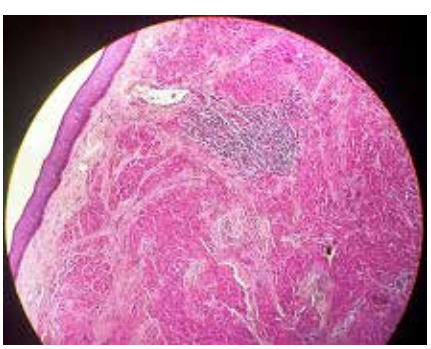

Fig.No-2: Photomicrograph of tumor with clusters of nests and sheets of cells in the superficial dermis with atrophic stratified squamous epithelium on the surface

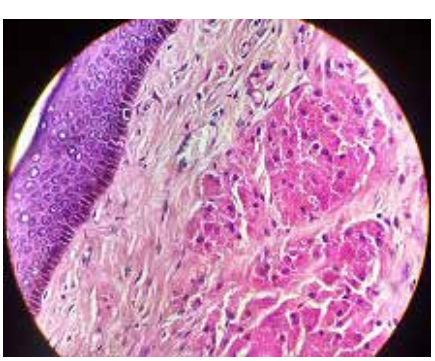

Fig.No-3: Large polygonal tumor cells with abundant granular eosinophilic cytoplasm.

Volume : 6 | Issue : 8 | August 2016 | ISSN - 2249-555X | IF : 3.919 | IC Value : 74.50

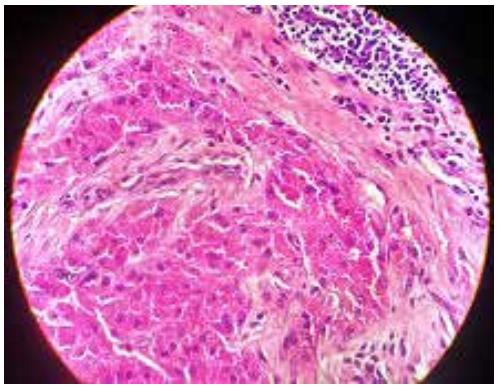

Fig.No-4: Tumor cells with uniform-looking round to oval nuclei, forming sheets and irregularly infiltrating between collagen bundles

REFERENCES

1. Shidham VB, Pandit AW, Rao RN, Basir Z, Shidham A. Tissue Harvester with Functional Valve (THFV): Shidham's device for reproducibly higher specimen yield by fine needle aspiration biopsy with easy to perform steps. BMC Clin Pathol. 2007;7:2.
2. Cheewakriangkrai C, Sharma S, Deeb G, Lele S. A rare female genital tract tumor: benign granular cell tumor of vulva: case report and review of the literature. Gynecol Oncol. 2005;97:656–658.
3. Kardhashi A, Assunta Deliso M, Renna A, Trojano G, Zito FA, Trojano V. Benign granular cell tumor of the vulva: first report of multiple cases in a family. Gynecol Obstet Invest. 2012;73:341–348.
4. Wilkinson EJ, Stone IK. Atlas of Vulvar Disease. 2nd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2008;111.
5. S.C. Hong, Y.K. Lim, S.H. Chew, Y.N. Chia, K.L. Yam. Case report of granular cell tumor of the vulva and review of current literature. doi:10.1016/j.gynor.2012.10.008.
6. Okan G, Muhammedrezai S, Ince U. Coexistence of granular cell tumor and schwannoma in a patient with vitiligo. South Med J. 2010;103:490–491.
7. Z.B. Argenyi. Granular cell tumour. World Health Organization Classification of Tumours, Pathology and Genetics of Skin Tumours, IARC Press, Lyon. 2006; 274–275
8. A.M. Althausen, D.P. Kowalski, M.E. Ludwig, S.L. Curry, J.F. Greene. Granular cell tumors: a new clinically important histologic finding. Gynecol. Oncol. 2000; 77: 310–313
9. J. Simone, G.T. Schneider, W. Begneaud, K. Harms. Granular cell tumor of the vulva: literature review and case report. J. La. State Med. Soc., 148 1996; 539–541.
10. B. Rose, G.S. Tamvakopoulos, E. Yeung, R. Pollock, J. Skinner, T. Briggs, S. Cannon. Granular cell tumours: a rare entity in the musculoskeletal system. Sarcoma, 2009;765927.
11. Mosbeh S, Shaaban D. Vulval Granular cell tumor: A rare entity. The Gulf Journal of Dermatology and Venereology. 2012;19:47-50.
12. Rivlin ME, Meeks GR, Ghafar MA, Lewin JR. Vulvar granular cell tumor. World J Clin Cases. 2013;1(4):149- 151.
13. SM Khodeza Nahar Begum, Nishat begum. Granular Cell Tumour of the Vulva: A Case Report. AKMMC J. 2012;3:28-30.