Case Report

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Primary Sclerosing Lipogranuloma: A Rare Cause of Scrotal Mass

Pathology Section

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ABSTRACT

Sclerosing Lipogranuloma (SLG) is a rare disease that affects many organs, with male genitourinary system being the most common site. It is a benign disease which occurs due to a granulomatous reaction of fatty tissue in this area. In most cases, it occurs secondary to exogenous foreign bodies. However, endogenous lipid degeneration can occur due to infection, trauma, and allergic mechanisms. We describe a 34-year-old male patient who presented with a growing, painless scrotal mass on physical examination. Clinical suspicion of paratesticular tumour was made and on cytological examination, possibility of adenomatoid tumour was considered. Histopathological evaluation confirmed the diagnosis of paratesticular SLG.

Keywords: Male genitalia, Paratesticular, Sclerosis

CASE REPORT

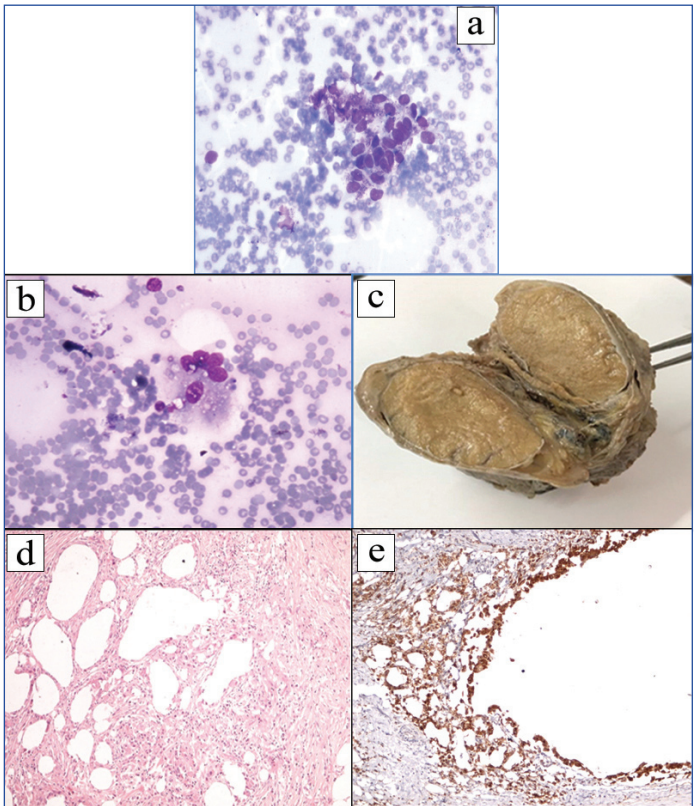
A 34-year-old man presented with a growing, painless right scrotal mass of three years duration. He did not have any history of trauma or an exogenous material injection to the scrotum. On examination, there was a right scrotal firm and non-tender swelling of 8x4 cm extending upto the inguinal ring. There were no lymphadenopathy and lesion in bilateral testes and epididymis. Clinical suspicion of paratesticular tumour was made.

Laboratory findings (whole blood count, blood chemistry, serum tumour markers) were all within normal limits. Ultrasonography showed a large 110x68x59 mm solid cystic mass in right scrotum distinctly separate from testes and extending up to inguinal region. Bilateral testis was normal in size, shape and texture. Initial fine needle aspiration of scrotal swelling was scantly cellular with presence of small cluster of epithelial cells with attempted gland formation along with few foam cells and giant cells and hence, a possibility of adenomatoid tumour was suggested [Table/Fig-1a,b]. The scrotal mass was resected along with right testis. The mass was in paratesticular region and was globular, well circumscribed, yellow with interspersed cysts of size 0.1 to 0.2 cm and had no connection to the adjacent structures (testis, spermatic cord, epididymis) [Table/Fig-1c]. Histological evaluation revealed a granulomatous reaction in fat tissue with presence of fat necrosis, lymphocytes, histiocytes and giant cells along with extensive fibrosis and hyalinisation. Few non epithelial lined cysts were present which showed histiocytes and giant cells in their wall.

On immunohistochemistry, CK was found to be negative in cyst wall with strong positivity for CD68 in the histiocytes lining them [Table/Fig-1d,e]. Acid fast bacteria were not identified by Ziehl-Neelsen stain. No fungi or gram positive bacteria were observed using gram, and Periodic Acid Schiff (PAS) stains. A final diagnosis of primary SLG was given and the patient followed up clinically without any further treatment post surgery. Patient is presently doing well with no sign of recurrence, seven months after surgery.

DISCUSSION

Sclerosing lipogranuloma is a granulomatous reaction to lipid degeneration with marked sclerosis and inflammatory response. SLG was first reported by Smetana HF and Bernhard W in 1950 [1]. It may occur anywhere with frequent occurrence in the male external genitalia (scrotum, perineum, penis, and spermatic cord). These are of two types: (a) those of unknown cause (primary SLG); and (b) those caused by a foreign body reaction (injection of liquid paraffin, vegetable oils, or silicon into the scrotal sac) [2]. Some authors consider that most primary cases are actually secondary because patients hide the history of genital foreign material injections [3]. Patients most often present with a localised painless to slightly tender intrascrotal mass/indurated plaque that gradually increases in size [4].



[Table/Fig-1]: a) FNAC- small cluster of epithelial cells with attempted gland formation (giemsa stain, 40X); b) FNAC showing giant cell with vacuolated cytoplasm (giemsa stain, 40X); c) Gross appearance well circumscribed, yellow paratesticular mass; d) Few non epithelial lined cysts with histiocytes and giant cells in their wall and fibrosis (H&E, 10X); e) IHC-CD68 positivity in histiocytes (IHC, 10X).

Primary SLG has been hypothesised to be caused by breakdown of endogenous lipids following an allergic pathway induced by heat, extreme cold, infection, and trauma [5]. Primary lesions have been reported in the testis and required a radical orchidectomy to rule out possibility of malignancy. It has been found to be closely related to granulomatous reaction, with the exact mechanism remaining unclear. Histologically, SLG is a granulomatous lesion and exhibits epithelioid cells, eosinophils, multinucleated giant cells, lymphocytes and macrophages [6].

Our patient being a primary type of SLG was a rare case of scrotal mass. Since SLG presents as an irregular scrotal mass, it may be presumed clinically to be a neoplastic lesion as in our case.

Tuberculosis, fungal infection and foreign body granuloma should also be considered in cytological differential diagnosis of SLG and should be ruled out by special stains [7]. Other differential diagnosis are adenomatoid tumour and lymphangioma. In adenomatoid tumour cystic spaces are lined by flat, cuboidal or low columnar cells and in lymphangioma, they are lined by endothelial cells. Fat necrosis and giant cells are not seen in both the above mentioned entities [8].

Definitive diagnosis can only be established by proper clinical evaluation and histological examination of biopsied or resected specimens. The presence of the granulomatous reaction, histiocyte lined cystic spaces and lymphocytic infiltration led us to diagnose this benign lesion as primary SLG of the scrotum. Although, steroid therapy has been recommended as the first treatment of choice, biopsy and surgical excision are often performed in the treatment of SLG [9]. SLG is usually a self-limited condition after biopsy. However, in cases of incomplete resection, it exhibits a rapid recurrence mimicking a neoplastic lesion.

CONCLUSION

Primary SLG is a very rare cause of scrotal mass which can be diagnosed on histopathologic evaluation only. This entity should always be kept in differential diagnosis for all testicular and paratesticular mass as in cases of incomplete resection, it can recur mimicking a neoplastic lesion.

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