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Teratoma with Somatic - Type Malignancy: A Case Report

Dr Anitha P[1], Dr Laila Raji N[2]

[1]Junior Resident, Department of Pathology, Government Medical College Thiruvananthapuram, Kerala, India
anithaasok90[at]gmail.com

[2]Professor and Head of The Department, Department of Pathology, Government Medical College, Thiruvananthapuram, Kerala, India

Abstract: ***A teratoma with somatic-type malignancy is a teratoma that develops a distinct component that resembles a somatic-type malignant neoplasm (e.g. sarcoma, carcinoma), as seen in other organs and tissues (1). Most somatic malignancy are likely to arise from teratoma through a complex transformation and differentiation mechanism.***

Keywords: Teratoma, somatic malignancy, germ cell tumours

1.Introduction

Somatic-type malignancies occur in 2.5-8.0% of testicular germ cell tumours virtually only in postpubertal patients. The somatic-type malignancies associated with teratoma most commonly occur in retroperitoneal lymph nodes seen in resections after cisplatin-based chemotherapy; they occur less commonly in primary testicular germ cell tumour. The interval from the diagnosis of a germ cell tumour to the onset of a somatic-type malignancy varies widely (2).

2.Case Report

67 year old male patient presented with complaints of right testicular swelling and pain with rapid increase in size. On evaluation LDH levels found to be elevated. CECT revealed a complex heterogenous cystic and solid lesion mea 5x5x4 cm with focal areas of calcification. Multiple enlarged retroperitoneal lymph nodes, right para-aortic and right gastric nodes present. Possibly Carcinoma Right testis with nodal metastases. However, the patient has not received any chemotherapy.

Patient underwent Right high inguinal orchidectomy. We received right testis with attached spermatic cord. On cut section identified a fairly circumscribed lesion entirely replacing testis mea 4.5x4x3cm, grey white with chondromyxoid areas and areas of necrosis. Microscopy showed islands of mature hyaline cartilage and cystic spaces lined by stratified squamous epithelium. The cyst wall showed an infiltrating neoplasm composed of cells arranged in nests with histologically undifferentiated cells of epithelial origin. Cut end of spermatic cord and rete testis free of neoplasm. Immunohistochemistry using panCK proved epithelial origin. Other specific markers for squamous and glandular origin negative. Final diagnosis was Teratoma with poorly differentiated malignant neoplasm possibly somatic malignancy. Patient succumbed to death on post operative day 2.

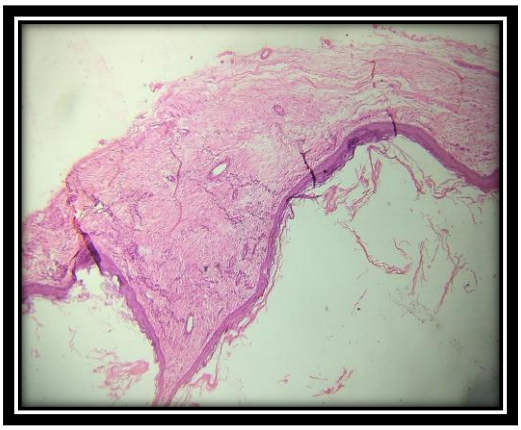

Figure 1: Cyst wall lined by stratified squamous epithelium

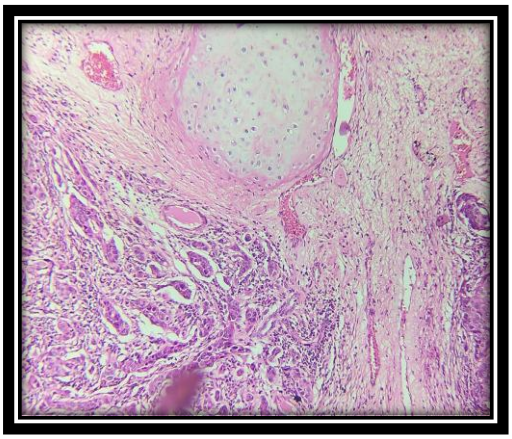

Figure 2: Islands of mature hyaline cartilage

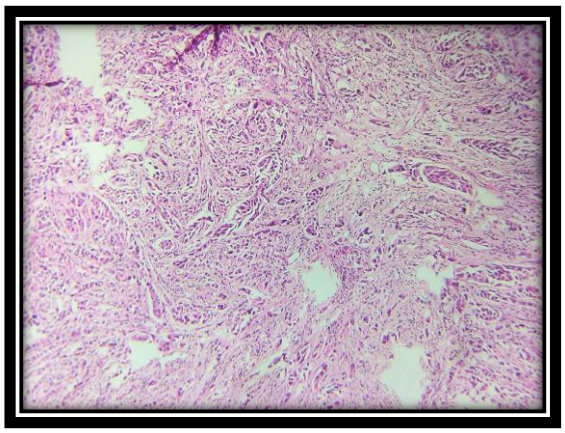

Figure 3: Infiltrating neoplasm of epithelial origin

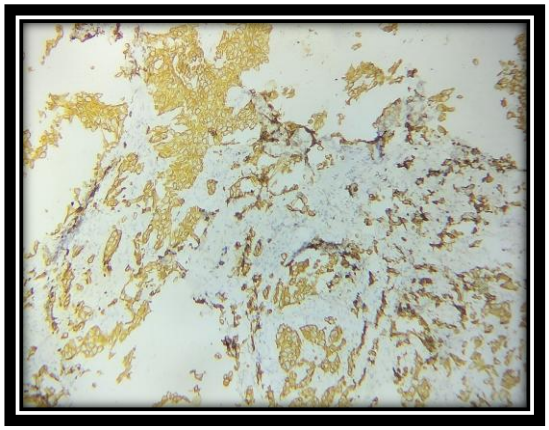

Figure 4: PanCK: Positive in tumor nests

3.Discussion

Somatic malignancies arising from a germ cell tumour is a rare phenomenon, occurring in approximately 2.7% to 8.6% of germ cell tumors cases, and is more commonly observed in late relapse cases. SMs have mostly been described with teratomas; however, non-teratomatous associations have been observed as well (3). Somatic malignancy can develop in the primary testicular tumor as well as in metastatic sites, and encompass a wide variety of histologic subtypes with sarcomas being the most common followed by carcinomas and primitive neuroectodermal tumors (PNET) (4). Rarely, Somatic malignancies can be hematological malignancies, a combination of different forms, or undifferentiated tumors. One hypothesis is that somatic malignancy may result from the transformation of a teratomatous component in the germ cell tumours. Another hypothesis is that the somatic malignancies and corresponding Germ cell tumours are clonally related and likely derived from a common pluripotent progenitor cell (5).

Management

The prognosis is generally not affected if the somatic malignancy is not the predominant component and confined to the testis. However, in metastasis or recurrence, mortality risk is increased. If the malignancy is localized, surgical resection is the treatment of choice. Patients with somatic-type malignancies respond poorly to the cisplatin-based chemo therapy used for conventional germ cell tumour however, some may respond to specific chemotherapy that is effective for their counterpart in other organs (6).

4.Conclusion

Somatic malignancies arising from Germ cell tumours are rare with a poorly understood pathogenesis. These are usually observed in late relapsing cases mainly at metastatic sites. Surgical resection remains the mainstay of treatment since the chemoresistance of somatic malignancies has been demonstrated in clinical studies (6). Somatic malignancy can occur at any point in the course, but has a propensity for late relapse and a presentation associated with a significantly worse prognosis. Prognosis is worse for late relapsing cases, somatic malignancy in metastatic lesions, and carcinomatous histology.

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