Fine Needle Aspiration Cytology Of A Subcutaneous Granular Cell Tumor Running Title: Cytology Of Granular Cell Tumor

S Kavishwar Vikas1, T Anchimane Vyankatesh2

Case Report

A 21-year-old female presented with a subcutaneous nodule on her left thigh on medial aspect of two year duration. There was no history of trauma or tuberculosis. The nodule gradually increased in size to 3x1cm. It was firm, non-tender, non-movable and clinically appearing like a lymphnode. Aspiration was blood mixed scanty material. The FNA smears showed moderate cellularity with syncytial clusters of oval to polygonal cells with round central nuclei and abundant amount of finely granular cytoplasm, both on Papanicolaou (PAP) and May-Grünwald-Giemsa (MGG) stains. Some clusters also showed lymphocytic infiltration. Many single, scattered cells with similar morphology were seen in the background. Occasional cells showed small but conspicuous nucleoli and few intranuclear inclusions. No cross striations or lipid droplets were noted. There was no evidence of necrosis, nuclear atypia or mitotic activity. The tumor was diagnosed as benign granular cell tumor and excisional biopsy was advised. A greyish-white, fleshy nodular tissue mass of 1 cm in diameter was received. On histopathology, apart from the usual features of GCT, many lymphocytic infiltrates were noted surrounding the tumor as noted on FNA smears. The tumor was PAS positive and diastase resistant which confirmed the diagnosis of GCT.

Discussion

Granular cell tumor (GCT) first described by Abrikosoff in 1926 is a neoplasm of unknown histogenesis, although neural origin is postulated 3, 4. GCT may arise from almost any organ including the subcutaneous tissue of the extremities. Granular cell tumor (GCT) is a rare benign tumor accounting for 0.01% to 0.03% of all tumors 5. GCTs are usually asymptomatic and may present as smooth, slow growing, solitary nodule in subcutaneous region. The mean age of occurrence ranges between 40 to 60 years. Females are twice more commonly affected 6. In our case, young female patient of 21 years presented with a subcutaneous nodular swelling at a site of medial aspect of left thigh since two years.

FNA smears reported in literature are moderate to highly cellular and composed of fairly uniform large cells with small round nuclei and abundant, indistinct finely granular cytoplasm7. They can be in clusters or single. Background can also show fine granular material. Occasionally intranuclear cytoplasmic inclusions have been identified7. All these features were observed in our case with lymphocytic infiltration in few of the clusters. GCTs can occur in small thymobiod aggregates or even small lymphoid nodules; which is a possibility in our case8. It should not be mistaken for metastatic tumors. Features like necrosis, spindling, vesicular nuclei with large nucleoli, increased mitotic activity, high nuclear-cytoplasmic ratio, nuclear pleomorphism and vascular invasion define malignancy3, 5. These were not observed in this case. Considering the anatomic site, in the differential diagnosis, epidermal squamous cells aspirated during FNAC was considered. However squamous cells have distinct polygonal cell borders with dense waxy cytoplasm which was not seen in this case.1 Also upon evaluation of the cells at a higher magnification, cytoplasmic granularity was quite apparent, thus excluding the possibility of squamous cells. They were also distinguished from macrophathy, the other differential of rhabdomyoma, hibernoma and fibroxanthoma were also ruled out due to presence of granular cells.5

Thus, cytopathologic features of granular cell tumor presenting as subcutaneous nodule are distinctive enough to allow a correct diagnosis at an unusual site like the thigh in this young age. This diagnosis is important to make as it has a distinctive morphology with good prognosis and only excision and only excision is required.

References