



Note on Granular Cell Tumor in Urinary Bladder

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DESCRIPTION

Granule cell tumors primarily arise in the upper part of the human body, about two-thirds occurring in the head and neck area. Therefore, this urinary bladder injury is very unusual and rare entity with only 16 cases reported in the literature. The tumor shows a slight predominance in females and occurs more frequently between the ages of 30 and 60; however, children affected by this neoplasm have also been reported which can lead to a sharp decrease in hemoglobin and blood pressure. Other less common signs of illness are dysuria, incontinence and abdominal pain. The term myoblastoma was first introduced in 1926 by Abrikossoff, who postulated that the tumor arose from striated muscle cells as a regenerative process following tissue injury. So far, based on histochemical and ultrastructural findings, three other theories on the histogenesis of granule cell tumors have been discussed: histiogenic origin with histiocytes as the underlying cell population; multicentric origin and widely favored neurogenic histogenesis postulating a Schwann Cell Derivation (SCD). However, the general histogenesis is still poorly understood, and although many authors favor a neurogenic origin, either from Schwann cells or modified neural crest cells, analysis failed to identify the direct transition from a Schwann cell to a myoblastoma. Histologically, granule cell tumors of all anatomical locations share the same features: they consist of polygonal cells with highly granular cytoplasm with fine eosinophilic granules and larger scattered droplets. Secondary epithelial hyperplasia is common when the tumor occurs near an epithelial surface. It can be difficult to distinguish from more common benign and malignant tumors or macrophage-derived lesions such as malakoplakia, which can be easily confused histologically. Therefore, specific analyses have become important in recent years in order to arrive at an accurate diagnosis. Today, immunohistochemical staining is particularly useful in distinguishing these tumors and malignant entities such as sarcomas and carcinomas, since GCTs stain positive for the neural crest-derived protein, both cytoplasmic

and nuclear. Furthermore, they frequently stain positively for calretinin, inhibin-alpha subunit, HLADR, laminin, and various myelin proteins, while staining negatively for epithelium (cytokeratin), sarcoma (desmin, vimentin), and neuroendocrine (neurospecific enolase, chromogranin A and synaptophysin) markers. In addition, benign granule cell tumors rarely show a proliferation index (as shown by Ki67 staining) greater than 10%. Due to the predominantly benign course of the tumor, transurethral resection with sufficiently sharp edges is the treatment of choice for most patients. However, recurrences have been described and can be treated with the same approach; however, less common malignant forms should be treated more radically. The first of the two malignant cases reported was treated by complete excision; unfortunately, the patient died 17 months later from metastases and local recurrences: The second patient underwent complete surgical removal, including radical cystectomy, bilateral salpingo-oophorectomy, hysterectomy and pelvic lymph node dissection, and remained disease-free thereafter. Despite the benign histology mentioned above, in this case we recommend follow-up according to the current standards of the European guideline for non-muscle-invasive bladder cancer, starting with a cystoscopy 3 months after tumor resection and a subsequent cystoscopy after 9 months, as well as an annual cystoscopy for 5 Years.

CONCLUSION

Granular cell tumors arising in the bladder are rare events, careful histological evaluation should be performed to rule out more malignant variant of the tumor and thus provide the patient with the best treatment. Transurethral resection is sufficient for most cases, in contrast to more radical approach that is performed when a malignancy is diagnosed. In recent years, immunohistochemical staining has proven to be a useful diagnostic tool for distinguishing granular cell tumors from other entities, however, due to their rarity, diagnosis can still be difficult.

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