An Aggressive Angiomyxoma of Vulva - A Rare Entity

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Summary

Aggressive Angiomyxoma is a rare slow growing mesenchymal tumor preferentially arising in the pelvic and perineal regions of young adult females of reproductive age group and has a marked tendency for local recurrence. We report the case of a 36-year-old female who presented with swelling of the vulva arising from Labia majora.

Keywords: Aggressive angiomyxoma; Mesenchymal tumor; Vulval tumor.

Introduction

Aggressive Angiomyxoma (AA) is a benign mesenchymal tumor that is very rare and slow growing in nature. It is usually seen in females of reproductive age and typical site of presentation is pelvic and perineal region with infiltration into adipose tissue and skeletal muscles.[1] The most common presentation is a painless growing mass. It can also present as dull aching pain, dyspareunia or even with urinary symptoms like urinary retention or dysuria. The common differential diagnoses that can often be misleading are groin hernia, abscess, sarcoma, gynecological malignancy, Bartholin gland cyst or lipoma. Rosai and Steeper first described this entity in 1983.[2] It usually presents as a painless mass in the vulvoperineal region. Less than 350 cases have been reported till date with this tumour which emphasizes on it's rarity.[3] The term aggressive refers to the infiltrative nature of the disease and also to the multiple local recurrences seen with the disease.[4] Mostly local recurrences were noted between 2 months to 15 years after initial diagnosis of the disease and recurrence rate varies from 9% to 72%.[5] The tumour is associated with high rate of incomplete resection due to local extension to urethra, rectum, anal sphincter, vagina and pelvic diaphragm leading to high risk of local recurrence. These tumors grow more during pregnancy due to the high rate of estrogen and progesterone receptor positivity found in AA. Because of this hormone positivity, these patients usually respond to hormonal manipulation. Due to the locally aggressive nature of the tumor, early diagnosis and appropriate treatment is most important to prevent future recurrences. Appropriate follow up schedule is also important to prevent recurrence. Aggressive Angiomyxomas exhibits typical radiological features. These are related to the typical location of tumor which is almost always found in the perineal and/or pelvic region. The other typical feature is characteristic demonstration of "swirled" appearance of relatively low-intensity internal stranding on MRI in both T1- and T2-weighted images. Due to the rare nature of the tumor consensus is still lacking on the treatment plan and follow-up schedule of the tumor. So, we are submitting the present case of a patient who underwent local excision for an AA followed by radiotherapy due to margin positive disease followed by hormonal therapy.

Case Report

A 36-year-old female presented with complain of vulval swelling for past 1 year that has gradually increased in size. There was no history of any bleeding or discharge from genital area. There was no history of local pain except a sensation of hanging mass while standing. Patient had a past history of similar lesion at the same site for which she underwent surgery at some local hospital three years back for which no records were available with the patient. She had taken no adjuvant treatment after the surgery. She then presented to us with recurrence. On local examination a large well circumscribed polypoidal mass approximately 10 cm x 10 cm x 17 cm was observed. The lesion was soft, spongy in consistency and non-tender. There was no lymphadenopathy associated with the mass. On gynecological examination, no abnormality was seen on cervix and vagina and no mass was palpable per rectum. Multiple warts of size <1cm were seen on mons pubis. Her laboratory investigations were all

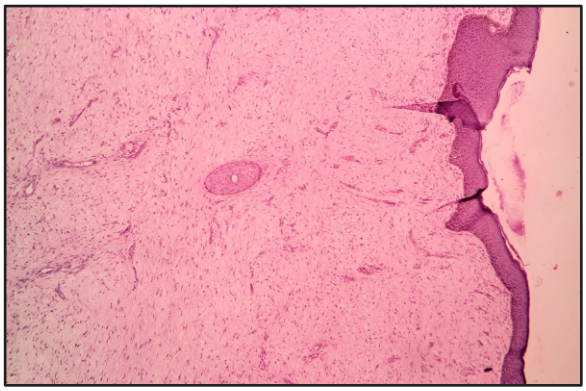

Figure 1: Histological section showing discrete stellate to spindle cells in myxoid stroma with multiple thin walled capillaries.

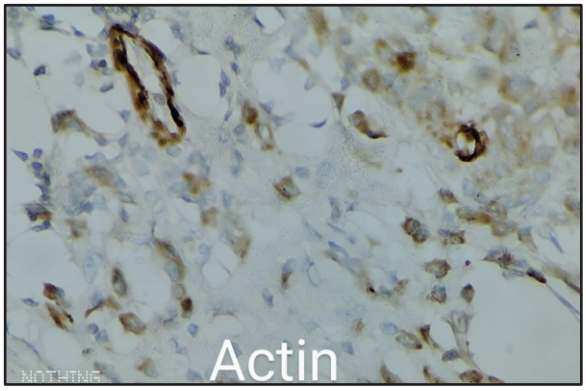

Figure 2: IHC staining - Actin.

within normal limits and ultrasonography of abdomen showed no abnormality. She was diagnosed to have hypothyroidism for which thyroxine 100 mg/day was started 1 month back. Magnetic Resonance Imaging (MRI) pelvis showed ill-defined mixed signal intensity mass involving skin and subcutaneous soft tissue of vulva in midline and both sides. Patient was planned for local excision and a simple vulvectomy was done. The specimen was then sent for histopathological examination. Gross examination of the specimen showed a large lesion of size 17 cm × 10 cm × 6 cm that was completely covered with skin. Overlying skin had nodular appearance and tumor was abutting it. On cut section, mass was pale white, smooth at places and infiltrating the surrounding fat. Microscopic examination showed epithelium with superficial ulceration and dense inflammatory cells. Stroma and deep tissue showed tumor composed of spindle cells. Blood vessels and rarely few mitotic figures were observed in between spindle cells. Right lateral mucocutaneous margin was positive. Diagnosis of spindle cell tumor possibly aggressive angiomyxoma was given on histopathology report (Figure1). On immune-histochemistry (IHC), tumor cells were positive for Calponin- 1, Actin, CD34, desmin, estrogen receptor (ER) and negative for beta

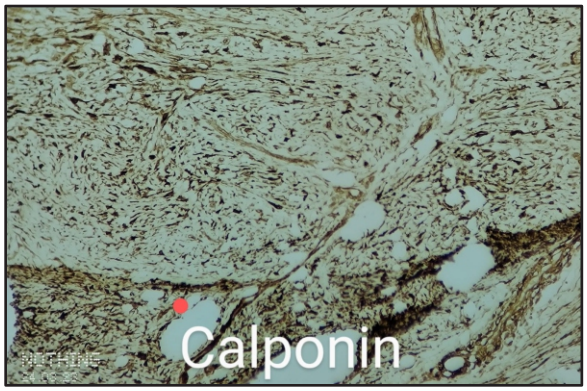

Figure 3:IHC staining - Calponin.

catenin and SOX- 10 (Figure 2 and 3). IHC confirmed it as a case of aggressive angiomyxoma of vulva. In view of positive margins on histopathology report radiotherapy opinion was taken and patient was planned for the same after adequate wound healing. Patient was given adjuvant radiotherapy (50.4 Gy/28#) followed by adjuvant hormonal therapy. Patient was started on GnRH agonist- Injection Leuprolide 3.75 gm deep intramuscular once a month and 3 injections were given following which patient was put on observation with regular follow up visits. Patient is on follow up on an outpatient basis and is doing well.

Discussion

Angiomyxoma is divided into superficial Angiomyxoma and aggressive Angiomyxoma. Superficial Angiomyxoma is also known as cutaneous myxoma and these can occur in setting of carney complex.[6] Superficial Angiomyxoma lesion is usually observed in males of middle age group and occur superficially mostly involving trunk, lower extremities and head and neck. Most lesions are usually asymptomatic and indolent polypoidal cutaneous lesions and can be confused with skin tags or cysts.

Aggressive Angiomyxoma is found in females of reproductive age group almost exclusively and very rarely in perimenopausal females and children. The usual presentation is an incidental finding or a painless indolent mass, which may go unrecognized for many years. The common differential diagnoses are groin hernia, abscess, sarcoma, gynecological malignancy, Bartholin gland cyst or lipoma. After collecting pertinent history and performing a detailed clinical examination, proper utilization of radiological imaging can help to narrow down the differential diagnoses. To document the exact extent of the tumor, MRI and contrast enhanced CT scan is recommended. These tumors show well defined margins on CT scan and also show attenuation

that is less than that of the muscle. On MRI, these tumors show extremely high signal intensity on T2 weighted images. Other feature is characteristic demonstration of "swirled" appearance of relatively low-intensity internal stranding on MRI in both T1- and T2-weighted images. The high signal intensity noted on MRI is due to high water content and loose myxoid matrix of AA.[7] The preferred imaging modality to detect recurrence is MRI.

The exact pathogenesis of AA is still unknown. However, due to positivity of tumor cells for desmin and smooth muscle actin on IHC the likely origin is either from specialized mesenchymal cells or from multipotent perivascular progenitor cells.[8] This is also supported by the immune-histochemical expression of actin along with desmin in the tumor cells in few cases.

The desired goal of the treatment is complete surgical resection of the mass with negative margins. Sometimes this can be difficult because of unencapsulated and infiltrative nature of the tumor. Superficial tumors are easily resected with wide local excision, while surgery in patients with large and deep seated tumors is very extensive and morbid. Sometimes to decrease the extensive surgical morbidity, resection with close or positive margin is accepted. This is mainly done to preserve fertility or to decrease morbidity. Adjuvant treatment with hormonal agents like tamoxifen, raloxifene or GnRH agonists like leuprolide acetate are usually beneficial when the patient is hormonal receptor positive. There was a case reported by Fine et al. in which patient with recurrent Aggressive Angiomyxoma of vulva was only treated with 3 months of GnRH agonist without any surgical resection or any other medical therapy.[9]

Our patient was most likely a case of recurrent AA as history of local surgery at similar site was likely due to the same etiology. Post surgery, radiotherapy was given to patient in view of positive lateral margin on histopathological examination to prevent recurrence of the tumor.[10] Usually chemotherapy and radiotherapy are not used in AA. Only hormonal therapy has a role but due to high recurrence rate and positive margin radiotherapy was used in our patient followed by adjuvant hormonal therapy.

Specific guidelines for post-operative follow up of vulvar AA is lacking but due to high recurrence rate and extensive morbidity associated with recurrences that might go unrecognized, several authors recommend a periodic evaluation with physical examination and MRI for up to 15 years after excision.[9]

Conclusion

Aggressive angiomyxoma is a locally aggressive and rare neoplasm. It should always be kept as a possibility whenever a patient present with growth in the vulvo-vaginal region, perineum or pelvis. As high local recurrence is well known with the tumor, early diagnosis and treatment with surgical excision and adjuvant treatment is beneficial for the patients.

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