Case Report

A Sizable Phyllodes Tumor of the Breast

Ibrahim Albalawi

Associate Professor of Surgical Oncology, Department of Surgery, Faculty of Medicine, University of Tabuk, Saudi Arabia, PO Box.4333 -Tabuk-71491
Corresponding Email: drbalawi@yahoo.com; Tel: 0096655668449

Received 3 June, 2016; Accepted 17 June, 2016

Phyllodes tumor is a benign breast cancer with a malignant potential. It is very rare in Saudi Arabia and also rare all over the world. Malignant phyllodes tumors originate from the connective tissue of the breast, so they are histologically sarcomas. Accurate preoperative pathological diagnosis is very important for management of phyllodes tumor and allows correct surgical planning and avoidance of reoperation. We report the largest phyllodes tumor ever seen in Saudi Arabia, a 41-year-old female who presented with a huge breast mass occupying the whole breast with areas of ulceration, her history started 14 months before with a slowly growing left breast swelling, ultimately the lump ulcerated and became necrotic. Mastectomy with partial resection of the pectoral muscles was done. The tumor specimen measured exactly to be 30 × 20 × 13 cm in size and weight of 5.4 kg with the closest margin of resection 0.5 cm away from the tumor the histopathology report came as malignant phyllodes tumor.

Keywords: Malignant, Phyllodes, Tumor, Prognosis, Breast malignancy.

INTRODUCTION

Phyllodes tumors are rare breast tumors accounting for <1% of all breast malignancies (Yohe and Yeh, 2008; Farias-Eisner et al., 2014).

Most of these tumors are benign, but some have a malignant potential. These tumors commonly occur in females during the 4th or 5th decade of life. These tumors can grow rapidly and the associated symptoms can mimic other types of breast carcinoma, particularly if the mass ulcerates and bleeds. The Patient usually presents with a smooth breast lump. The only treatment option for these tumors is surgical removal (Lannin and Geibel, 2014). Phyllodes tumor often present diagnostic and treatment dilemma. World Health Organization divided phyllodes tumor into benign, borderline, and malignant categories based on the degree of stromal cellular atypia, mitotic activity per 10 high-power fields, degree of stromal overgrowth (these three are main), tumor necrosis, and margin appearance. The borderline tumors has the greatest tendency to local recurrence (Kumar et al., 2011). All forms of phyllodes tumors had malignant potential and can behave like sarcomas with blood-borne metastasis to various organs, commonly the lungs, bone, and abdominal viscera (Moffat et al., 1995). The majority of phyllodes tumors have been described as benign (35% to 64%), with the remainder divided between the borderline and malignant subtypes.

Phyllodes tumor attribute 0.3 to 0.5% of female breast tumors and have an incidence of about 2.1 per million; they usually compress the surrounding tissue from which it is usually well demarcated. The bulk of this tumor is connective tissue with mixed gelatinous cystic and solid areas (Kumar et al., 2011). Malignant tumors usually had rhabdomyosarcoma and liposarcoma rather than fibrosarcomas, the number of mitoses may help in the diagnosis of the malignant subtype (Rowell et al., 1993) and (Khan and Badve, 2001).

The cutoff point for giant phyllodes tumor is 10cm, this size present management problem to the surgeon, although the surgical management of phyllodes tumors had been previously addressed in the literature, few reports have commented on the giant phyllodes tumor (Tan et al., 2014)

Depending on malignant potential, bulky tumor, recurrence, and status of resection margins the treatment may vary between wide local excision with 1cm breast tissue or radiotherapy (Liang et al., 2002). Revision surgery may be required for a high percentage of tumors with inadequate margin removal, and
radiotherapy after breast surgery may significantly reduce the local recurrence rate for borderline and malignant tumors (Barth et al., 2009) and (Tan et al., 2012).

CASE REPORT

A 41 years old single female presented with a gradually increasing lump in the left breast for 14 months, the mass ulcerated and started to bleed. Two months before the patient seek medical advice the mass ulcerated and started to bleed with severe pain.

On presentation, the patient was alert, conscious and her vital signs were stable. On breast examination, giant ulcerating mass (>30cm in diameter) occupied entire left breast with areas of necrosis. With bleeding from different points, no other masses were palpable as were axillary lymph nodes. Her hemoglobin was 7g/dl and all other investigations were within normal limits. A true-Cut biopsy was performed and diagnose phyllodides tumor. The patient received blood transfusion pre-operatively and underwent total mastectomy and no axillary clearance was done.

A breast tissue measuring - 30 x 20 x 13 cm in dimensions was resected (Figure A and B).

Near total surface of the specimen is covered by tan colored skin 30x17. Deep margin displays butt out smooth surfaced nodules, cut surface is multinodular and shows variable sized fleshy, soft to firm, off-white to ash colored leafy nodules

Microscopically, fragments of breast tissue and several circumscribed nodular masses consistent with fibro adenomatous changes, poorly organized variably arranged stroma and gland with stromal dominance were seen. Areas of hemorrhage, thrombosis, and necrosis were also evident. Moreover, an increased mitosis with stromal and epithelial proliferation and leaf pattern epithelial component of the tumor growth was also observed, Figure C and D. No remarkable changes were evident on the underlying skin. A final histological diagnosis was malignant phyllodes tumor. The patient had an uneventful recovery and received radiotherapy. She was free of recurrence one year after surgery (Salvadori et al., 1989). Etiology of these tumors remains elusive. The left breast is more commonly affected than the right one. These tumors grow radially and compress the surrounding breast parenchyma, a false capsule is created, through which the tumor extends and grow into the rest of healthy mammary tissue (Adamietz et al., 2011). They tend to grow quickly within a period of weeks or months (breastcancer.org 2012). The overlying skin is usually shiny and translucent enough to reveal underlying veins at its initial presentation (Lannin and Geibel, 2014) ultimately the tumor can cause an ulcer or open wound on the skin. These tumors represent a character of large malignant sarcoma, taking a leaf-like appearance on gross examination and cystic spaces on histological examination (Parker and Harries, 2001).

In most cases it mimics a benign breast condition such as fibroadenoma making the diagnosis more challenging (Lannin and Geibel, 2014); (breastcancer.org 2012), unless it grows to massive, ulcerative, hemorrhagic lesion. The tumor is differentiating from other benign breast disorders by the increased mitotic activity, cellular atypia, and stromal proliferation. Although the malignant potential is very rare, lungs are the most common metastatic site, followed by the skeleton, heart and liver (Abe et al., 2011). Mammography and breast ultrasound cannot differentiate phyllodes from other benign breast conditions such as fibroadenomas, (Kim et al., 2015).

The incisional and excisional biopsies are the definitive methods for diagnosing the phyllodes tumor, although core cut biopsy is a reliable investigation for diagnosis.

Complete surgical resection is the treatment of choice; however, particularly in the borderline and malignant phyllodes tumors, the extent of the resection is controversial as they penetrate in the surrounding normal tissues (Ben Hassouna et al., 2006). For this reason, a wide local excision that must include a healthy breast tissue. No proven curative or palliative role in the management of these tumors was confirmed for neoadjuvant and adjuvant therapy, due to the lack of tumor-free margins during surgical resection, a recurrence rate of less than 13% is usually observed (Belkacemi et al., 2008), a close follow-up with frequent breast examinations and imaging tests is recommended after surgery. The preoperative diagnosis and proper management are crucial in phyllodes tumors because of their tendency to recur and malignant potential in some of these tumors.

DISCUSSION

Phyllodes tumors are solid lumps that are usually discovered as an incidental finding during the examination of a female breast. These tumors are usually well circumscribed and painless with an average size of 5 cm. But lesions measuring more than 30cm have also been reported. While primarily a disease of females, these tumors had been reported in few cases of male breast (Bapat et al., 2002) and (Nielsen and Andreasen, 1987). Phyllodes tumors peak incidence is between 30 to 40 years, but can occur at any age (Salvadori et al., 1989). Etiology of these tumors remains elusive. The left breast is more commonly affected than the right one. These tumors grow radially and compress the surrounding breast parenchyma, a false capsule is created, through which the tumor extends and grow into the rest of healthy mammary tissue (Adamietz et al., 2011). They tend to grow quickly within a period of weeks or months (breastcancer.org 2012). The overlying skin is usually shiny and translucent enough to reveal underlying veins at its initial presentation (Lannin and Geibel, 2014) ultimately the tumor can cause an ulcer or open wound on the skin. These tumors represent a character of large malignant sarcoma, taking a leaf-like appearance on gross examination and cystic spaces on histological examination (Parker and Harries, 2001).

In most cases it mimics a benign breast condition such as fibroadenoma making the diagnosis more challenging (Lannin and Geibel, 2014); (breastcancer.org 2012), unless it grows to massive, ulcerative, hemorrhagic lesion. The tumor is differentiating from other benign breast disorders by the increased mitotic activity, cellular atypia, and stromal proliferation. Although the malignant potential is very rare, lungs are the most common metastatic site, followed by the skeleton, heart and liver (Abe et al., 2011). Mammography and breast ultrasound cannot differentiate phyllodes from other benign breast conditions such as fibroadenomas, (Kim et al., 2015).

The incisional and excisional biopsies are the definitive methods for diagnosing the phyllodes tumor, although core cut biopsy is a reliable investigation for diagnosis.

Complete surgical resection is the treatment of choice; however, particularly in the borderline and malignant phyllodes tumors, the extent of the resection is controversial as they penetrate in the surrounding normal tissues (Ben Hassouna et al., 2006). For this reason, a wide local excision that must include a healthy breast tissue. No proven curative or palliative role in the management of these tumors was confirmed for neoadjuvant and adjuvant therapy, due to the lack of tumor-free margins during surgical resection, a recurrence rate of less than 13% is usually observed (Belkacemi et al., 2008), a close follow-up with frequent breast examinations and imaging tests is recommended after surgery. The preoperative diagnosis and proper management are crucial in phyllodes tumors because of their tendency to recur and malignant potential in some of these tumors.

CONCLUSION

Accurate preoperative pathological diagnosis allows correct surgical planning and avoidance of reoperation. The value of FNAC in the diagnosis of phyllodes tumor remains controversial, but core needle biopsy has high sensitivity value. Surgical management is the mainstay
and local recurrence in phyllodes tumors have been associated with inadequate local excision.

REFERENCES


Symptoms and diagnosis of Phyllode's tumor of the breast; (online resource) available at http://www. }

