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A CASE STUDY OF RECURRENT PHYLLODES TUMOR IN A 16-YEAR-OLD ADOLESCENT

Breast Surgery

Dr. Sana Salika Junior Resident, Department of General Surgery, Mahatma Gandhi Memorial Medical College and Hospital, Jamshedpur

Dr. Shubham Saxena* Junior Resident, Department of General Surgery, Mahatma Gandhi Memorial Medical College and Hospital, Jamshedpur*Corresponding Author

Dr. Mohd. Arif Zia Junior Resident, Department of Community Medicine, Shri Ram Murti Smarak Institute of Medical Sciences, Bareilly

ABSTRACT

Phyllodes tumors are rare fibroepithelial breast neoplasms, accounting for less than 1% of all breast tumors. They exhibit a spectrum of behaviors ranging from benign to malignant, with a significant potential for local recurrence. Diagnosing and managing these tumors, particularly in young patients, is challenging, as they often mimic benign conditions like fibroadenoma. This case report presents a 16-year-old adolescent tribal female with a recurrent benign phyllodes tumor, initially misdiagnosed as a giant fibroadenoma. Six months post-lumpectomy, the patient experienced tumor recurrence, prompting further surgical intervention.

KEYWORDS

Phyllodes tumor, recurrent breast tumor, fibroadenoma, mastectomy, adolescent breast tumor.

INTRODUCTION

Phyllodes tumors are rare fibroepithelial neoplasms of the breast that account for less than 1% of all breast tumors, predominantly affecting middle-aged women. However, the occurrence of these tumors in adolescents is highly unusual, posing significant challenges for diagnosis and management due to their rapid growth and potential recurrence. Based on histologic features, including nuclear atypia, stromal cellularity, mitotic activity, tumor margin appearance, and stromal overgrowth, the World Health Organization classifies Phyllodes tumors as benign, borderline, and malignant.1 Despite the benign classification, these tumors can exhibit aggressive clinical behavior, including rapid growth and recurrence, necessitating careful surgical planning and vigilant follow-up.2 Their diagnosis is mainly established based on histopathological examination.

In adolescents, phyllodes tumors are often mistaken for fibroadenomas, which are far more common in this age group and share similar clinical presentations. This misdiagnosis can lead to inadequate treatment and delayed intervention, increasing the risk of recurrence and complications.

However, when they do occur in younger patients, their clinical presentation often mimics fibroadenomas, another common benign breast mass in this age group. This similarity can make diagnosis difficult, leading to potential mismanagement. In adolescents, the rapid growth of the tumor can be particularly concerning, as it may lead to significant psychological distress and concerns regarding body image.3

In this case report, we present a 16-year-old adolescent female from a tribal region who developed a recurrent benign phyllodes tumor following an initial misdiagnosis of a giant fibroadenoma. The case highlights the diagnostic challenges associated with phyllodes tumors, particularly in young patients, and underscores the importance of histopathological evaluation to guide proper management. Furthermore, the aggressive recurrence of the tumor despite its benign classification reinforces the need for vigilant follow-up and consideration of radical surgical approaches in managing recurrent cases..

CASE REPORT

The patient, a 16-year-old female from the tribal community of Ghatshila, presented to our facility with a rapidly enlarging mass in her right breast. Six months earlier, she had undergone a lumpectomy for what was initially diagnosed as a giant fibroadenoma. At that time, the mass had presented as a lemon-sized lesion, which rapidly increased in size, prompting the surgical intervention. Unfortunately, no histopathological evaluation was performed after the lumpectomy, and the diagnosis of fibroadenoma was made solely on clinical grounds.

The current presentation occurred six months post-lumpectomy, during which the patient noticed a recurrence of the breast mass. On examination, the mass measured 13 × 10 cm, involving all quadrants of the right breast. The mass had a bosselated (knobby) surface, with areas of varying consistency and mild tenderness. The skin overlying the mass exhibited brown discoloration, and dilated superficial veins were visible, suggesting rapid growth. A hypertrophic scar from the previous lumpectomy was also noted.

The patient reported a gradual increase in the size of the mass over the past three months, accompanied by mild discomfort, but without systemic symptoms such as fever or weight loss. Given the rapid recurrence and the large size of the mass, further diagnostic workup was deemed necessary to determine the exact nature of the lesion and to plan appropriate management.

DIAGNOSTIC WORKUP

The diagnostic evaluation began with a fine needle aspiration cytology (FNAC) of the mass. FNAC revealed a fibroepithelial lesion but was inconclusive regarding whether the tumor was benign or malignant. The cytology report suggested that the lesion could represent either a fibroadenoma or a phyllodes tumor, but the distinction between the two could not be confidently made based on cytology alone.

Following the FNAC, imaging studies were conducted, including an ultrasound and mammography. The ultrasound showed a well-defined, lobulated mass with smooth margins, consistent with a benign breast lesion. Mammography confirmed the presence of a large, well-circumscribed mass without calcifications or invasion into surrounding tissues, further supporting the diagnosis of a benign lesion. However, given the patient's history of recurrence, the possibility of a phyllodes tumor was considered.

To obtain a definitive diagnosis, a true cut biopsy (core needle biopsy) was performed. The histopathological examination of the biopsy revealed the presence of a benign phyllodes tumor. The biopsy showed characteristic leaf-like projections, increased stromal cellularity, and occasional mitotic figures, with fewer than five mitoses per 10 high-power fields (HPF), all of which are typical features of a benign phyllodes tumor. Importantly, there was no evidence of malignant transformation or invasion into surrounding tissues.

TREATMENT

Given the rapid recurrence of the tumor following the initial lumpectomy and the significant size of the mass, a decision was made to proceed with more aggressive surgical management. While benign phyllodes tumors are typically treated with wide local excision, the large size of the tumor, its involvement of all quadrants of the breast, and the patient's young age made breast-conserving surgery less viable.

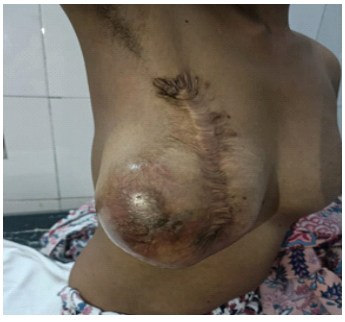
After a multidisciplinary discussion with the surgical and oncology teams, the decision was made to perform a simple mastectomy. The goal of the surgery was to completely remove the tumor while minimizing the risk of further recurrence. The mastectomy was successfully performed, and the patient tolerated the procedure well. The tumor was resected with clear margins, and the final histopathology confirmed the diagnosis of a benign phyllodes tumor. The surgical specimen showed no evidence of malignancy, and all margins were free of tumor involvement.

FOLLOW-UP

Postoperatively, the patient had an uneventful recovery and was discharged on the fifth day after surgery. She was closely followed up with regular clinical examinations and imaging studies to monitor for any signs of recurrence. At the six-month follow-up, the patient showed no evidence of local recurrence, and there were no signs of distant metastasis. The patient was counseled regarding the importance of long-term follow-up, given the potential for recurrence even in benign phyllodes tumors.

In addition to clinical follow-up, the patient received psychosocial support to address any concerns related to body image and the emotional impact of undergoing a mastectomy at such a young age. The patient has continued to do well in subsequent follow-up visits, with no signs of recurrence noted one year after surgery.

Figure 1: Management of recurrent phyllodes tumor



DISCUSSION

Phyllodes tumors in adolescents are an exceptionally rare occurrence, with less than 1% of all breast tumors falling into this category. These tumors pose unique challenges in diagnosis and management, especially given their potential for recurrence even in benign cases. In adolescents, misdiagnosis as fibroadenomas can delay appropriate treatment, as seen in the case of a 16-year-old patient with a rapidly recurring breast mass. Histopathological examination is essential for distinguishing between fibroadenomas and phyllodes tumors. Studies suggest that wide local excision with sufficient margins is critical for reducing recurrence, especially in benign phyllodes tumors, as recurrence rates range between 10% to 17%.2 A case report of a 17-year-old who experienced multiple recurrences of fibroadenomas that transformed into malignant phyllodes highlights the importance of early, accurate diagnosis and vigilant follow-up.4 Mastectomy may become necessary for recurrent or large tumors, particularly when local excision is inadequate, reinforcing the need for aggressive surgical intervention in such cases.5

CONCLUSION

This case undelines the importance of thorough histopathological evaluation and vigilant follow-up in the management of breast masses, particularly in young patients. Recurrent phyllodes tumors, even when benign, may require aggressive surgical intervention, such as mastectomy, to prevent further recurrence. While mastectomy may seem radical, it can provide definitive treatment and reduce the risk of future recurrences. Clinicians should maintain a high index of suspicion for phyllodes tumors in adolescents presenting with rapidly growing breast masses, and histopathological evaluation should always be performed to guide management decisions. This case also highlights the need for continued research into the biological behavior of phyllodes tumors to better inform treatment strategies and improve outcomes for patients.

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