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## Case Report

# Borderline phyllodes tumor arising in accessory breast tissue at the axilla<sup>☆</sup>

Sarunthorn Lapkittichot, MD<sup>a,\*</sup>, Prakasit Chirappapha, MD<sup>b</sup>, Naparat Rermluk, MD<sup>c</sup>

<sup>a</sup> Division of Diagnostic Radiology, Department of Diagnostic and Therapeutic Radiology, Faculty of Medicine Ramathibodi Hospital, Mahidol University, 270 Rama VI Road, Bangkok 10400, Thailand

<sup>b</sup> Department of Surgery, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok, Thailand

<sup>c</sup> Department of Pathology, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok, Thailand

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## ABSTRACT

Accessory breast tissue is an anatomical variation which occurs during embryogenic development. It appears most frequently at the axilla. Benign and malignant processes in general breast tissue can occur in accessory breast tissue. We report a case of 76-year-old female presented with palpable, huge mass at the right axilla which pathology of the mass was borderline phyllodes tumor. Phyllodes tumors arising in accessory breast tissue is an extremely rare condition. And this case study showed more detail on phyllodes tumor which would encourage the advance in management of the disease.

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## Case report

A 76-year-old female presented with a palpable mass at the right axilla which had been present for a month with rapid growth. The first mammogram and breast ultrasound in February 2021 showed a huge mass with lobulated border and internal cystic clefts at the right axilla with an approximate size of 7.9 × 6.0 cm (Fig. 1). Core needle biopsy (CNB) was performed, and the pathological result was benign breast tissue with fibroepithelial lesion; favoring phyllodes tumor. The mass was excised in March 2021. Gross examination revealed an ovoid solid-cystic tan-white mass with focal permeative border with an approximate size of 8.7 × 7 × 5 cm. Histological features show focally permeative border with increased

stromal cellularity and mild to moderate nuclear pleomorphism. Mitotic count is 5 mitoses/10 high power fields. There was no observed stromal overgrowth. These findings are compatible with borderline phyllodes tumor (Figs. 2–4).

## Discussion

Accessory breast tissue is residual breast tissue that persists from normal embryologic development. It is often found along the milk line that runs bilaterally from anterior axillary folds to the inguinal regions and medial thigh. The most common location of accessory breast tissue is in the axilla [1].

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\* Corresponding author. S. Lapkittichot.

E-mail address: [Sarunthorn.lap@gmail.com](mailto:Sarunthorn.lap@gmail.com) (S. Lapkittichot).

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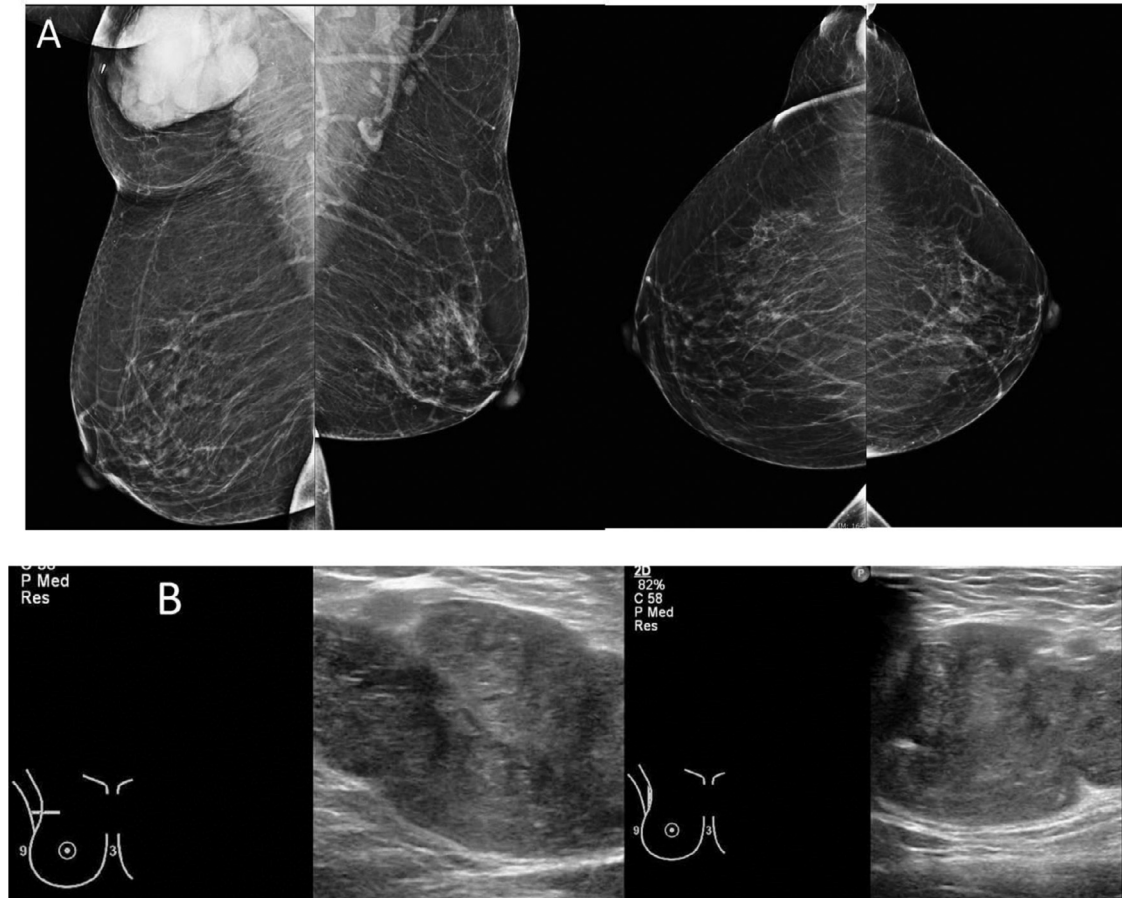
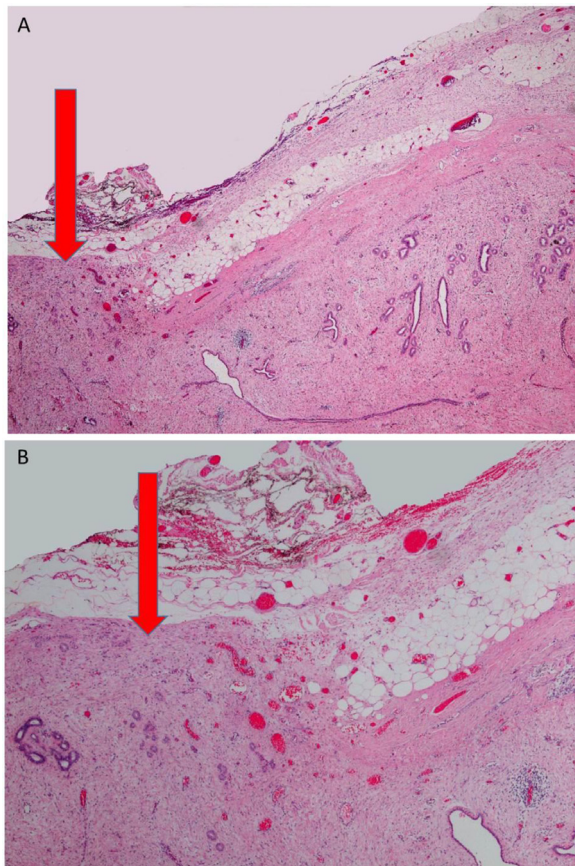


Fig. 1 - Mammogram in mediolateral oblique (MLO) and craniocaudal (CC) views (A) and Breast US (B).



Fig. 2 - The gross morphology of the lesion revealing an ovoid shaped, solid-cystic tan-white mass with focal permeative border.





**Fig. 3 – The histology of the peritumoral adipose tissue with the stromal permeation at low magnification; (A) H&E, x20 (B) H&E, x40.**

A patient with accessory breast tissue may present with palpable lump in the axilla or may be asymptomatic. Accessory breast tissue is the same as normal breast tissue which responds to hormone. The knowledge concerning accessory breast tissue is important to improve the quality of patient care since the diagnosis may be confused with various abnor-

malities including lymphadenopathy, lipoma, vascular malformation or malignancy. The key to solve this problem lies in understanding the pathology of benign and malignant tumors that are able to occur in accessory breast tissue [1–3].

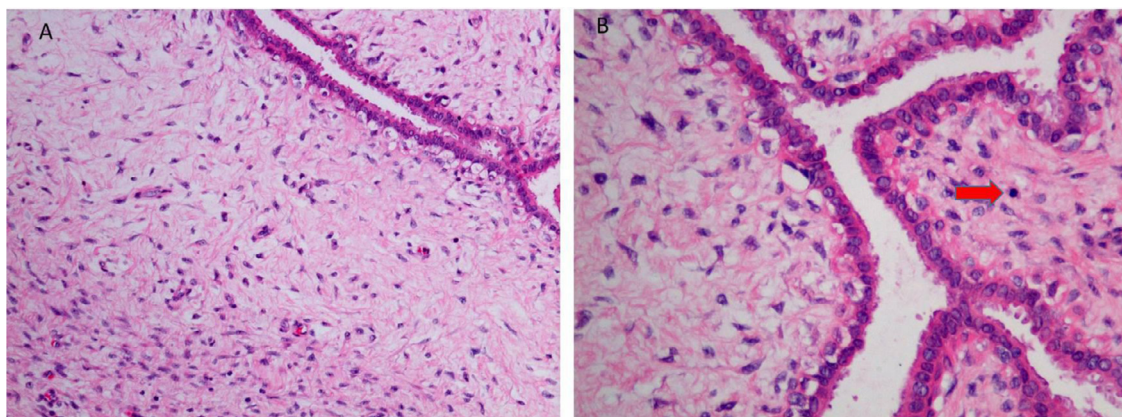
Benign proliferative breast lesions are most frequently observed in women who are 30–40 years of age and sometimes cause significant breast asymmetry due to the large size of the lesions. The differential diagnoses for these lesions include benign phyllodes tumors, pseudoangiomatous stromal hyperplasia (PASH), juvenile fibroadenomas or giant fibroadenomas with increased stromal cellularity [4].

Phyllodes tumors are rare fibroepithelial breast tumors. Its structural pathology is similar to fibroadenoma but has increased stromal hypercellularity with typical leaf-like projection which can be observed from histopathology of the tissue.

Evaluation of phyllodes tumor is based on clinical, radiological and histopathological examination [5,6]. The diagnosis of phyllodes tumor is based on the criteria defined by the World Health Organization in 2003. The classification of phyllodes tumors is distinguished into 3 histological subtypes: benign, borderline and malignant [7] (Table 1).

Phyllodes tumors arising in ectopic breast tissue are extremely rare conditions. They mostly have been reported in the vulva and axilla. Review of literature has revealed only 6 cases in axilla (not include the present case) [3,8–12] (Table 2).

The principles of surgical treatment of proliferative breast lesions are different for each diagnostic category. Fibroepithelial lesions are benign with exception of phyllodes tumors which comprise 2.5% of fibroepithelial lesions [13]. Clinical manifestations that could increase the suspicion of phyllodes tumors includes older age, large tumor size with history of rapid growth. The critical points in management of phyllodes tumors consist of preoperative tissue diagnosis and surgical techniques for breast reconstruction after the removal of the tumor. CNB is preferable to fine needle aspiration for preoperative tissue diagnosis, because fibroadenomas and phyllodes tumors have similar cytologic features. The major pathologic feature distinguishing phyllodes tumors from fibroadenomas is the increase in stromal cellularity of stromal component of phyllodes tumors. However, the histopathologic feature of benign phyllodes tumors can be difficult to distinguish from



**Fig. 4 – Section of the mass showing increased stromal cellularity (A) H&E, x200. At high magnification, (B) H&E, x400.**

**Table 1 – Histopathologic features of fibroadenoma comparing benign, borderline and malignant phyllodes tumors [7].**

Histologic features	Types of Phyllodes tumors		
	Benign	Borderline	Malignant
Tumor border	Well defined	Well defined, may be focal permeative	Permeative
Stromal cellularity	Cellular, usually mild, may be non-uniform or diffuse	Cellular, usually moderate, may be non-uniform or diffuse	Cellular, usually marked and diffuse
Stromal atypia	Mild or none	Mild or moderate	Marked
Mitotic activity	Usually low: <5 per 10 HPFs	Usually frequent: 5-9 per 10 HPFs	Usually abundant: ≥10 per 10 HPFs
Stromal overgrowth	Absent	Absent (or very focal)	Often present
Malignant heterologous elements	Absent	Absent	May be present
Relative proportion of all phyllodes tumor	60%-75%	15%-26%	8%-20%

**Table 2 – Summary of the reported cases of phyllodes tumors in ectopic breast tissue at axilla.**

Case	Age (y)	Location	Histologic classification	Reference
1	45	Bilateral axillae	Benign	Saleh and Klein [8]
2	31	Left axilla	Benign	Oshida et al [9]
3	43	Left axilla	Benign	Limón et al [10]
4	22	Left axilla	Malignant	Znagui et al [3]
5	21	Right axilla	Benign	Zubair [11]
6	46	Right axilla	Benign	Fujimoto et al [12]

fibroadenomas on CNB. This is common for a CNB of either a phyllodes tumor or fibroadenoma to be interpreted as a “fibroepithelial lesion,” hence phyllodes tumor cannot be ruled out in such a situation. The mainstay treatment of phyllodes tumors is excision of the lesion with wide margins. Several publications advise that margins of least 1 cm are adequate for phyllodes tumors. The prognosis of phyllodes tumor can be further improved since local recurrence usually occurs within the first few years following surgery, especially if it was with an incomplete excision [4–6,14]. There is different management of fibroadenomas in which may be conservative, especially in woman under the age of 35 years old. Excision by total enucleation may be performed in some cases with large or increased size of the tumors, especially in woman older than 35 years [14,15].

## Patient consent

Written informed consent was obtained from the patient for the publication of this case report.

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