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Clinical and Therapeutic Aspects of Phyllodes Tumors of the Breast: Experience from the Teaching Hospital of Angre in Abidjan regarding a Series of 24 Cases

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Abstract

Phyllodes tumor is a rare fibroepithelial neoplasm belonging to the spectrum of breast tumors. It primarily occurs in adult women and is exceptionally rare in adolescents. We report 24 cases, with patient ages ranging from 11 to 52 years. Diagnosis was established following core needle breast biopsy and confirmed by histological examination. Treatment consisted primarily of wide local excision (tumorectomy) with clear surgical margins and no adjuvant therapy. Achieving adequate surgical margins appears to confer a benefit in terms of both local recurrence-free survival and overall survival, particularly in cases of malignant phyllodes tumors.

Keywords

Phyllodes Tumor, Breast, Tumorectomy

1. Introduction

Phyllodes tumors are rare breast neoplasms, accounting for 0.3% to 1% of all breast tumors. They are fibroepithelial lesions that can be classified as benign, borderline, or malignant [1]. The majority of phyllodes tumors are benign, representing 35% to 64% of cases [2]-[4]. Diagnostic criteria for malignant phyllodes tumors are relatively well defined by the 2019 WHO classification [5]. The aim of this study was to evaluate the contribution of core needle biopsy to preoperative diagnosis and to analyze histological concordance following surgical treatment.

2. Materials and Methods

In this retrospective descriptive study, the authors reviewed 24 cases of breast phyllodes tumors collected over a 5-year period (2020-2024) at the Teaching Hospital of Angre in Abidjan, complemented by a literature review. The study aimed to describe the clinical circumstances of tumor occurrence, including clinical features, duration of symptoms, surgical management, and histological findings. The 2019 WHO classification was chosen to categorize phyllodes tumors of the breast.

The sampling method was exhaustive; all women followed and operated on for phyllodes tumors of the breast at the Angré University Hospital were included in this study. A review of the scientific literature from the last 15 years was conducted. We consulted the Medline database using the PubMed search engine and also performed free-text searches using the Google Scholar search engine. The search was carried out by combining the terms (Phyllodes tumor, breast, tumorectomy) AND (Histological examination, Management).

3. Results

We retrospectively reviewed 24 medical records of patients diagnosed with phyllodes tumors of the breast (PTB) over a 5-year period at the Teaching Hospital of Angre in Abidjan. The mean age at diagnosis was 31 years (range: 11 - 52 years). The average tumor size was 9 cm (range: 4 - 22 cm), with a predilection for the upper outer quadrants of the breast (45.8%).

The main clinical features are summarized in Table 1.

Table 1. Clinical features of phyllodes tumors of the breast.

Clinical Features	Number	Percentage (%)
Duration of evolution		
<1 year	13	54.1
1 - 2 years	7	29.1
>2 years	4	16.7
Tumor growth		
Rapid	20	83.3
Stable	4	16.7
Tumor size (cm)		
4 - 9	8	33.3
10 - 14	10	41.7
15 - 22	6	25
Axillary lymphadenopathy		
Yes	1	4.2
No	23	95.8

Mammography was performed in 41.7% of our patients.

Fine-needle aspiration cytology, carried out in 10 patients, suggested the presence of a phyllodes breast tumor in 8 cases. Core needle biopsy showed discordance with the final histological diagnosis in 16.7% of cases (20 cases of phyllodes tumors and 4 cases initially diagnosed as fibroadenomas) (Table 2).

Table 2. Histological features after surgical excision.

Grade	**Number**	**Percentage** (%)
Grade 1	14	58.3
Grade 2	9	37.5
Grade 3	1	4.2
Total	24	100

Surgical treatment was breast-conserving in 18 patients (75%), allowing preservation of an acceptable breast volume after tumor resection with clear margins. Notably, 6 patients underwent mastectomy due to large tumor size or high histological grade, and 3 patients received breast reconstruction (mammoplasty).

No axillary surgery, chemotherapy, or radiotherapy was administered. No local recurrences were observed during a 2-year follow-up period among the 8 patients who were regularly monitored (Figures 1-6).

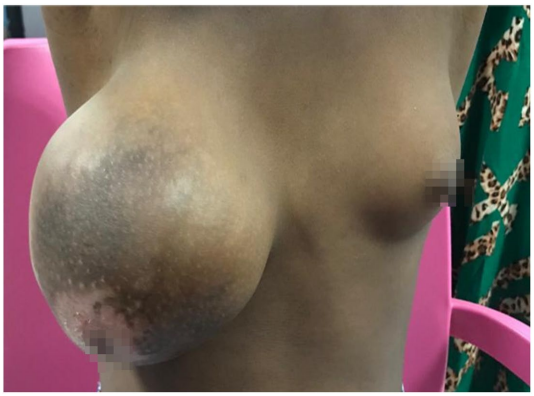

Figure 1. Marked enlargement of the right breast (15 cm tumor mass) with skin changes resembling orange peel and hyperpigmentation in an 11-year-old adolescent.

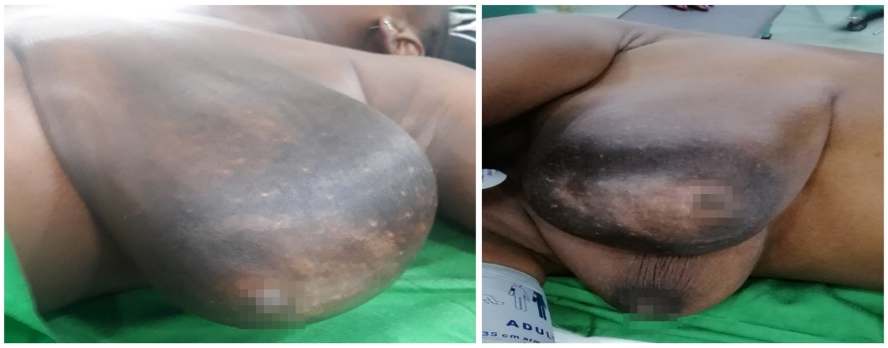

Figure 2. Phyllodes tumor of the left breast (22 cm in greatest dimension) in a 35-year-old pregnant woman.

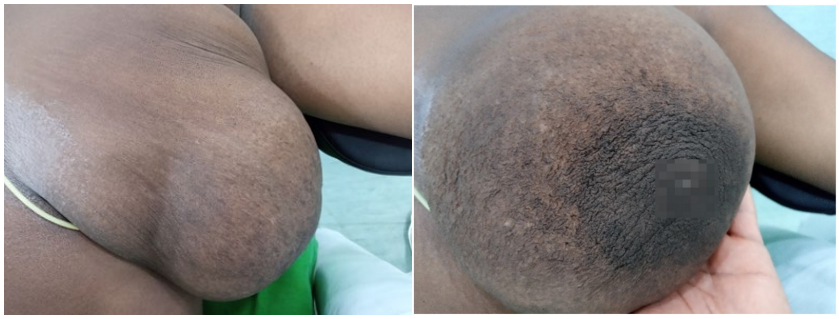

Figure 3. Appearance of a phyllodes tumor of the left breast (20 cm in greatest dimension).

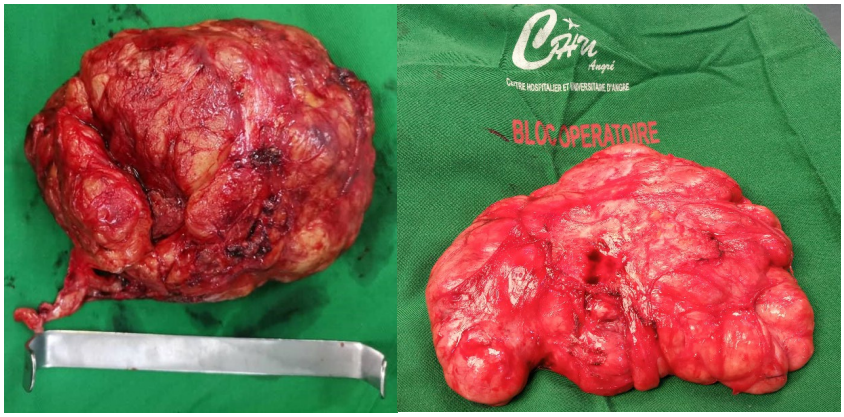

Figure 4. Anterior view of tumor masses following surgical excision.

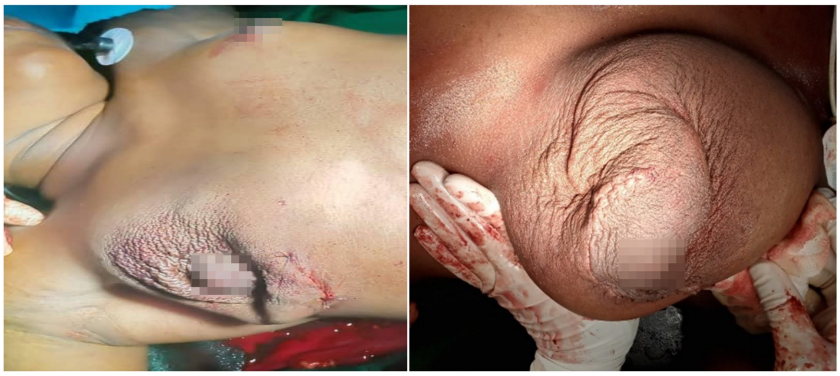

Figure 5. Postoperative views.

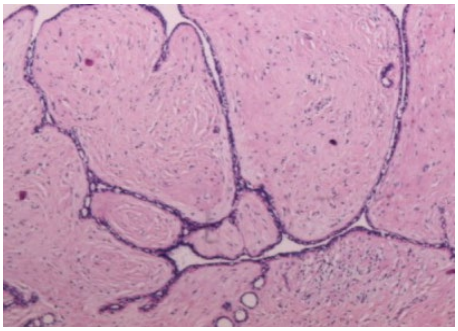

Figure 6. Histological appearance showing leaf-like papillary projections characteristic of stromal proliferation.

4. Discussion

Phyllodes tumors of the breast are rare, and most published studies in the literature are case reports or small case series [2]. In our study, the cases involved predominantly young women, with a mean age of 31 years. These tumors appear to be more frequent, larger in size, and occur at a younger age among Black patients compared to what is generally reported in the existing literature [6]. Indeed, the median age of onset described in most series ranges from 40 to 50 years [7] [8].

Rapid growth of the breast mass led us to suspect a phyllodes tumor in the majority of cases. However, the clinical presentation of phyllodes tumors (PTs) only allows for an approximate diagnosis typically characterized by a large, lobulated mass. In our series, tumor size ranged from 4 cm to 22 cm in greatest dimension, with a mean of 9 cm, and all lesions were unilateral. In contrast, Belkacemi's series reported tumor sizes ranging from 0.5 to 27 cm, with a mean size of 5 - 7 cm [9].

Cutaneous changes such as erythema, striae, or inflammatory signs occur only with large or superficially located tumors [8] [10].

The etiopathogenesis of phyllodes tumors remains unclear. However, a known risk factor has been identified: mutations in the TP53 gene, as seen in Li-Fraumeni syndrome [11]. In our cohort, patients sought medical care at variable intervals, most commonly prompted by symptoms; notably, symptom duration was less than one year in 54.1% of cases.

The diagnostic workup is well established and includes core needle biopsy followed by histological confirmation after surgical excision. In our series, histological discordance between preoperative biopsy and final pathology was observed in 16.7% of cases. This implies that in case of diagnostic doubt, surgical excision must be wide. A diagnosis of phyllodes tumour should be based on the finding of well-developed stromal fronds accompanied by increased stromal hypercellularity [10] [12].

Imaging and cytology do not provide definitive diagnostic certainty. Computed tomography (CT) and magnetic resonance imaging (MRI) help define the local extent of disease [9] [12]. Nevertheless, Tan *et al.* [13] demonstrated a correlation between MRI features and histological grade based on specific criteria: tumor size, irregular margins on ultrasound, presence of non-enhancing cystic septations, and signal changes between T2-weighted and contrast-enhanced MRI sequences.

Only histological examination allows accurate grading, which is essential for optimal therapeutic decision-making [9]. Furthermore, phyllodes tumors can pose a diagnostic challenge, particularly in differentiating them from fibroadenomas or soft tissue sarcomas [2] [12].

Histologically, phyllodes tumors are mixed fibroepithelial neoplasms, likely arising from the terminal ductolobular unit and considered stromal-derived. They are characterized by stromal hypercellularity, which typically imparts a leaf-like ("phyllodes") architecture on gross and microscopic examination—hence the name. Although most are benign, approximately 5% are classified as malignant (Grade 3) [2] [7]-[9] [13]. Moreover, the literature reports that up to 30% of percutaneous

biopsies for suspected phyllodes tumors yield false-negative results [14] [15].

Surgical management must prioritize wide local excision with clear margins extending into healthy tissue.

Tumors are classified into three histoprognostic grades: Grade 1 (benign): No adverse histological features and negligible risk of recurrence. Grade 2 (borderline): Presence of at least one adverse histological feature and Grade 3 (malignant/sarcomatous): Presence of at least three adverse features, with a reported 25% risk of distant metastasis at 3 years [1].

Key distinguishing features of Grade 3 tumors include a high mitotic index (>9 mitoses per 10 high-power fields), markedly increased stromal cellularity with severe atypia, and diffuse infiltrative tumor margins [16]. Grading is typically based on semi-quantitative assessment of stromal components, including nuclear pleomorphism, mitotic rate, stromal overgrowth, tumor necrosis, cellularity, and margin characteristics.

Current guidelines recommend complete tumor excision with margins of at least 1 cm [16] [17] either via wide local excision (tumorectomy) or mastectomy, without axillary lymph node dissection. The choice of surgical approach depends on patient age, tumor size, and/or histological grade following biopsy [16].

At the Angré University Hospital, when the tumor-to-breast ratio was considered high and if the tumor was grade 3, mastectomy was recommended. We chose a size of 20 cm as a reference for mastectomy. Despite advances in oncoplastic breast-conserving techniques, very large phyllodes tumours (PT) may still be recommended for mastectomy [18].

In our series, this principle was strictly adhered to: six patients underwent simple mastectomy without lymph node dissection, while those who had tumorectomy achieved clear resection margins (minimum 10 mm of healthy tissue) [19]. However, Onkendi *et al.* [20], in a study of 67 borderline and malignant phyllodes tumours from the Mayo Clinic, found that the extent of surgical excision had no impact on disease-free survival.

Prognosis is primarily determined by the risk of local recurrence and distant metastasis, warranting regular clinical and radiological follow-up for at least 2 years [21] [22]. However, implementing such surveillance remains challenging in sub-Saharan African settings due to limited resources and infrastructure. Our study being retrospective, this resulted in a high rate of patients lost to follow-up. In sub-Saharan Africa, once patients are informed of the benign diagnosis, they no longer see any benefit in long-term follow-up. Overall, recurrence rates in the literature are 10% - 17%, 14% - 25% and 23% - 30% for benign, borderline and malignant phyllodes tumours, respectively. However, it is accepted that adverse events are, in general, rare for all forms of phyllodes tumours when they are subjected to complete local excision [16].

5. Conclusion

Phyllodes tumors are very rare breast neoplasms, with diagnosis typically suggested by core needle biopsy. Prognosis is ultimately determined by histopatho-

logical findings. In cases of presumed benign disease, breast-conserving surgery remains the standard of care, provided that wide excision with clear margins is achieved, followed by rigorous clinical and radiological surveillance. Our observations highlight the real-world challenges in ensuring adequate postoperative follow-up after conservative surgery, particularly in resource-limited settings. Given the heterogeneity of phyllodes tumors ranging from benign to frankly malignant it is essential to develop tailored, context-sensitive management guidelines that account for this spectrum of disease behavior. To reduce diagnostic discrepancies in breast phyllodes tumors, experienced pathologists should collaborate to ensure reliable results. For patients lost to follow-up, oncologists from the CNRAO (National Radiotherapy Center) should be involved to ensure optimal patient monitoring.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

[1] Sars, C., Sackey, H., Frisell, J., Dickman, P.W., Karlsson, F., Kindts, I., *et al.* (2023) Current Clinical Practice in the Management of Phyllodes Tumors of the Breast: An International Cross-Sectional Study among Surgeons and Oncologists. *Breast Cancer Research and Treatment*, **199**, 293-304. https://doi.org/10.1007/s10549-023-06896-1

[2] Spitaleri, G., Toesca, A., Botteri, E., Bottiglieri, L., Rotmensz, N., Boselli, S., *et al.* (2013) Breast Phyllodes Tumor: A Review of Literature and a Single Center Retrospective Series Analysis. *Critical Reviews in Oncology/Hematology*, **88**, 427-436. https://doi.org/10.1016/j.critrevonc.2013.06.005

[3] Bogach, J., Sriskandarajah, A., Wright, F.C. and Look Hong, N. (2023) Phyllodes Tumors of the Breast: Canadian National Consensus Document Using Modified Delphi Methodology. *Annals of Surgical Oncology*, **30**, 6386-6397. https://doi.org/10.1245/s10434-023-13912-7

[4] Zurrida, S., Galimberti, V., Bartoli, C., de Palo, G., Squicciarini, P., Delledonne, V., *et al.* (1992) Which Therapy for Unexpected Phyllode Tumour of the Breast? *European Journal of Cancer*, **28**, 654-657. https://doi.org/10.1016/s0959-8049(05)80119-4

[5] WHO (2019) Classification of Tumours Editorial Board Breast Tumours. 5th Edition, IARC

[6] Kamdem Modjo, D.E., Alima, J.M., Neng Tatah, H., Ngo Dingom, M., Fouogue Tsuala, J., Moustapha, B., Ngalame, A., Atangana, P.A., Kenfack, B. and Mboudou, E.T. (2024) Phyllodes Tumors of the Breast in Douala: Clinical and Histological Variants. *Health Research in Africa*, **2**, 70-73.

[7] Zhang, Y. and Kleer, C.G. (2016) Phyllodes Tumor of the Breast: Histopathologic Features, Differential Diagnosis, and Molecular/Genetic Updates. *Archives of Pathology & Laboratory Medicine*, **140**, 665-671. https://doi.org/10.5858/arpa.2016-0042-ra

[8] Tomimaru, Y., Komoike, Y., Egawa, C., Motomura, K., Inaji, H., Kataoka, T.R., *et al.* (2005) A Case of Phyllodes Tumor of the Breast with a Lesion Mimicking Fibroadenoma. *Breast Cancer*, **12**, 322-326. https://doi.org/10.2325/jbcs.12.322

[9] Belkacémi, Y., Bousquet, G., Marsiglia, H., Ray-Coquard, I., Magné, N., Malard, Y., *et al.* (2008) Phyllodes Tumor of the Breast. *International Journal of Radiation On-*

cology Biology Physics, **70**, 492-500. https://doi.org/10.1016/j.ijrobp.2007.06.059

[10] Stamatakos, M., Tsaknaki, S., Kontzoglou, K., Gogas, J., Kostakis, A. and Safioleas, M. (2009) Phylloides Tumor of the Breast: A Rare Neoplasm, Though Not That Innocent. *International Seminars in Surgical Oncology*, **6**, Article No. 6. https://doi.org/10.1186/1477-7800-6-6

[11] Birch, J.M., Alston, R.D., McNally, R.J., Evans, D.G.R., Kelsey, A.M., Harris, M., *et al.* (2001) Relative Frequency and Morphology of Cancers in Carriers of Germline TP53 Mutations. *Oncogene*, **20**, 4621-4628. https://doi.org/10.1038/sj.onc.1204621

[12] Slodkowska, E., Nofech-Mozes, S., Xu, B., Parra-Herran, C., Lu, F., Raphael, S., *et al.* (2018) Fibroepithelial Lesions of the Breast: A Comprehensive Morphological and Outcome Analysis of a Large Series. *Modern Pathology*, **31**, 1073-1084. https://doi.org/10.1038/s41379-018-0032-8

[13] Tan, H., Zhang, S., Liu, H., Peng, W., Li, R., Gu, Y., *et al.* (2012) Imaging Findings in Phyllodes Tumors of the Breast. *European Journal of Radiology*, **81**, e62-e69. https://doi.org/10.1016/j.ejrad.2011.01.085

[14] Lee, A.H.S., Hodi, Z., Ellis, I.O. and Elston, C.W. (2007) Histological Features Useful in the Distinction of Phyllodes Tumour and Fibroadenoma on Needle Core Biopsy of the Breast. *Histopathology*, **51**, 336-344. https://doi.org/10.1111/j.1365-2559.2007.02786.x

[15] Jacobs, T.W., Chen, Y., Guinee, Jr, D.G., Holden, J.A., Cha, I., Bauermeister, D.E., *et al.* (2005) Fibroepithelial Lesions with Cellular Stroma on Breast Core Needle Biopsy: Are There Predictors of Outcome on Surgical Excision? *American Journal of Clinical Pathology*, **124**, 342-354. https://doi.org/10.1309/5n2c-4n5x-cb8x-w8jl

[16] Tan, B.Y., Acs, G., Apple, S.K., Badve, S., Bleiweiss, I.J., Brogi, E., *et al.* (2016) Phyllodes Tumours of the Breast: A Consensus Review. *Histopathology*, **68**, 5-21. https://doi.org/10.1111/his.12876

[17] Hashmi, A.A., Mallick, B.A., Rashid, K., Zafar, S., Zia, S., Malik, U.A., *et al.* (2023) Clinicopathological Parameters Predicting Malignancy in Phyllodes Tumor of the Breast. *Cureus*, **15**, e46168. https://doi.org/10.7759/cureus.46168

[18] Ip, E.C. and Ung, O. (2020) A Novel Breast-Conserving Surgical Technique in the Management of Phyllodes Tumours of the Breast. *World Journal of Surgery*, **44**, 4149-4152. https://doi.org/10.1007/s00268-020-05748-z

[19] Bendifallah, S. and Canlorbe, G. (2015) Prise en charge des tumeurs bénignes du sein épidémiologiquement fréquentes de type adénofibrome, phyllode (Grade 1 et 2), et papillome: Recommandations. *Journal de Gynécologie Obstétrique et Biologie de la Reproduction*, **44**, 1017-1029. https://doi.org/10.1016/j.jgyn.2015.09.042

[20] Onkendi, E.O., Jimenez, R.E., Spears, G.M., Harmsen, W.S., Ballman, K.V. and Hieken, T.J. (2014) Surgical Treatment of Borderline and Malignant Phyllodes Tumors: The Effect of the Extent of Resection and Tumor Characteristics on Patient Outcome. *Annals of Surgical Oncology*, **21**, 3304-3309. https://doi.org/10.1245/s10434-014-3909-x

[21] Neron, M., Sajous, C., Thezenas, S., Piperno-Neumann, S., Reyal, F., Laé, M., *et al.* (2020) Surgical Margins and Adjuvant Therapies in Malignant Phyllodes Tumors of the Breast: A Multicenter Retrospective Study. *Annals of Surgical Oncology*, **27**, 1818-1827. https://doi.org/10.1245/s10434-020-08217-y

[22] Packer, M.D.C. and Lester, S.C. (2025) Current Understanding of Phyllodes Tumors of the Breast: Tumor Classification, Molecular Landscape, and Best Pathology Practice. *Human Pathology*, **162**, Article 105863. https://doi.org/10.1016/j.humpath.2025.105863