Exp Oncol 2021
43, 4, 373–375

Experimental ONCOLOGY

THE GIANT PHYLLODES TUMOR OF THE BREAST — A CASE REPORT

V.V. Zaichuk[1], A.A. Samusieva[1,2,], M.V. Diatel[3], M.M. Plodiienko[3]*
[1]*Bogomolets National Medical University, Kyiv 01601, Ukraine*
[2]*Shupyk National Healthcare University of Ukraine, Kyiv 04112, Ukraine*
[3]*Kyiv City Clinical Oncology Center, Kyiv 03115, Ukraine*

Phyllodes tumors are rare tumors of the breast, which are often misdiagnosed as fibroadenomas and difficult to treat with adjuvant therapy. Here, we present a case of a female patient with giant phyllodes tumor of the breast.
Key Words: **giant phyllodes tumor, giant fibroadenoma, breast tumor.**

DOI: 10.32471/exp-oncology.2312-8852.vol-43-no-4.16902

Chelius first described this tumor in 1827 [1]. The first person who uses the term cysto-sarcoma phyllodes was Johannes Muller in 1838. This tumor was considered benign until 1943, when Cooper and Ackerman reported on its malignant biological potential. Fibroepithelial tumors of the breast with a greater degree of stromal cellularity than fibroadenomas and those with the characteristic "leaf-like" projections are classified as phyllodes tumors. In 1982, World Health Organization declared the term "phyllodes tumor" as the most appropriate among more than 60 synonyms. Furthermore, World Health Organization sub-classified them histologically as benign, borderline or malignant [2]. Here, we report a case of giant phyllodes tumor.

A 50-year-old woman was presented to the surgical department of the Kyiv City Clinical Oncology Center, with a rapidly growing mass in her right breast. On examination, there was a 20 × 20 cm firm mobile mass which totally replaced her right breast with redness of skin, well-circumscribed, no nipple discharge and her axillary lymph nodes were not palpable. She had no family history of breast and ovarian cancer. The mammography revealed a giant mass of right breast with a well-defined border (Fig. 1). Result of pathomorphological study after a core biopsy of the tumor of the right breast demonstrated spindle cell tumor.

Subsequently, the mastectomy of the right breast was performed. Macroscopically, it looks like a huge lobulated firm tumor mass 17 × 15 cm in size, negative surgical margins, in a section of gray-white color with heterogeneous structure (Fig. 2).

The pathomorphological examination demonstrated heterogeneous structure of the tumor. Peripheral sections of the tumor had a typical structure of a phylloid tumor with signs of proliferation of the stromal component (Fig. 3, 4). The stroma of the central parts of the tumor had morphological signs of dedifferentiated liposarcoma (Fig. 5, 6). The immunohistochemical study demonstrated 35% of Ki67-positive cells (Fig. 7).

Submitted: April 1, 2021.
*Correspondence: E-mail: stasya20_11@ukr.net

The postoperative course was without complications, and the wound healed well. The oncology council decided to conduct a course of radiation as adjuvant therapy at a dose of 45 Gy. The patient is followed-up and undergoes regular examinations at 2-year intervals. No data of the progression of the disease have been recorded.

Phyllodes tumors are rare fibroepithelial tumors that account for 0.3% to 0.5% of all breast neoplasms [3]. Typically, this tumor is characterized by the mobile rapidly growing, well-circumscribed mass. < 10% of phyllodes tumors are larger than 10 cm in size and these tumors have been defined as giant phyllodes; very rarely they can be up to 48 cm in diameter [4]. They may occur at any age, with the median age being the 5th decade [5]. There are no known predisposing factors for phyllodes tumors, and the diagnosis is often not suspected.

Noguchi *et al.* [6] conducted a clonal analysis of fibroadenoma and phyllodes tumor, which showed that, in a proportion of fibro-adenomas, a somatic mutation can result in a monoclonal proliferation, histologically indistinguishable from the polyclonal element, but with a propensity to local recurrence and progression to a phyllodes tumor.

Phyllodes tumors are infrequent type of breast tumors. To distinguish between a benign and malignant phyllodes tumor before surgery is difficult. Ultrasound and mammography are the most commonly used as a first line of diagnosing phyllodes tumors. In addition, for more targeted diagnosis core needle biopsy and magnetic resonance imagingcan be used. Core needle biopsy represents the preferred method of preoperative diagnosis for giant breast tumors with 99% of sensitivity [7, 8].

Surgical resection is the treatment of choice in case of such tumors, but adequate free margins must be obtained in all cases. Unnecessary delay can leads to disease progression and increase morbidity and mortality. The wide excision or mastectomy with adequate free margins is the treatment of choice in such cases; reconstruction is occasionally performed after mastectomy for giant malignant phyllodes tumors. The decision about immediate reconstruction can

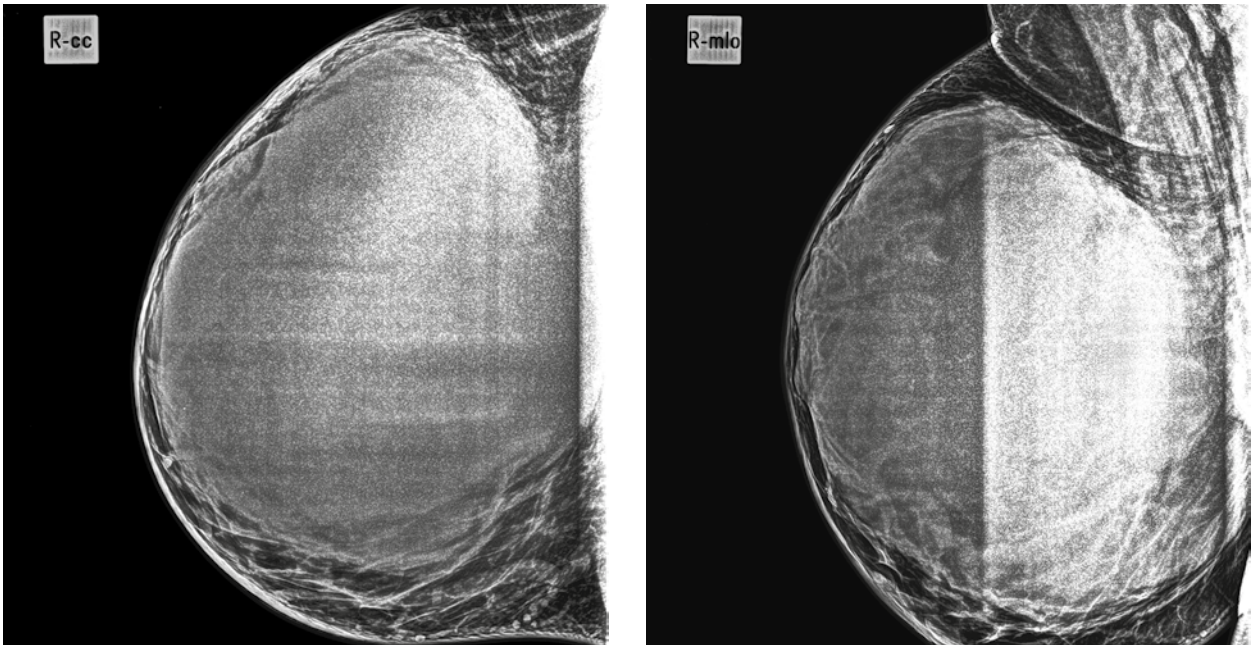

Fig. 1. Right breast, cranio-caudal and medio-lateral oblique view

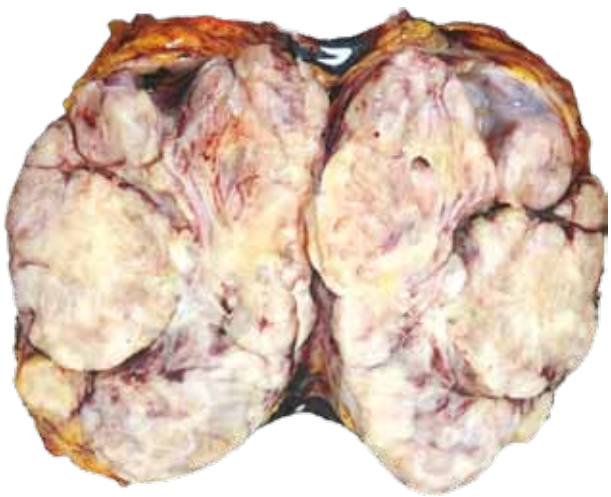

Fig. 2. Macroscopic view of the giant phyllodes tumor

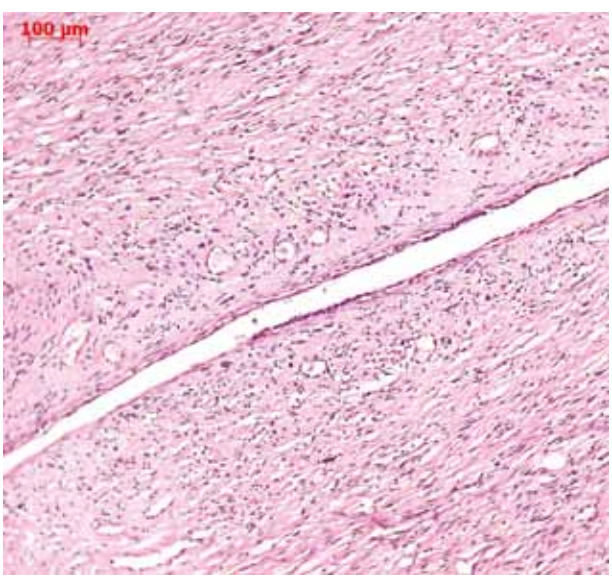

Fig. 3. Slit-like narrowed duct, due to the proliferation of the spindle-shaped cell stroma (H&E ×200)

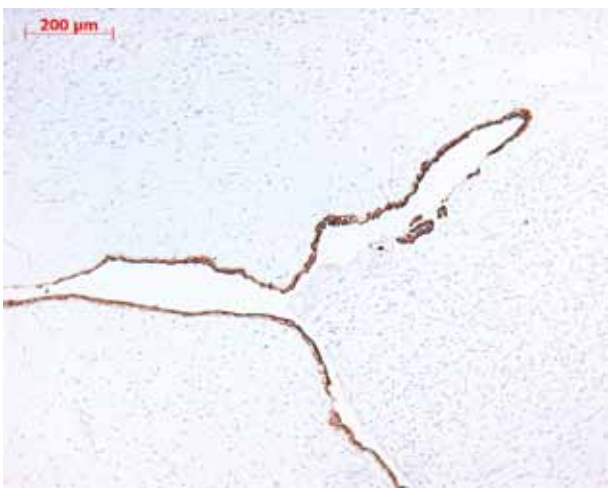

Fig. 4. Semi-obturated ducts, by immunohistochemical study marked the remains of the epithelial component (pancytokeratin AE1 and AE3, ×200)

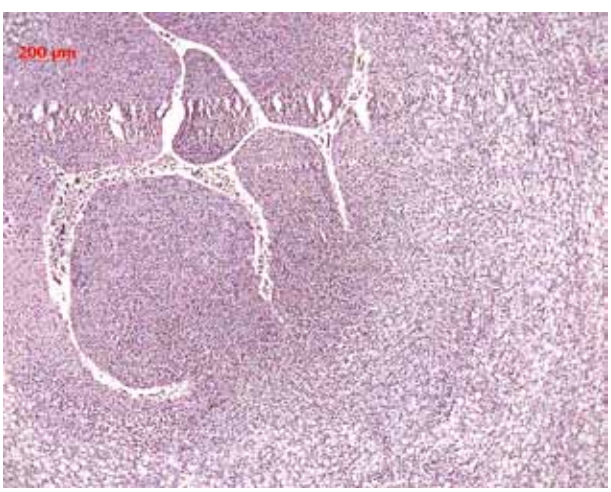

Fig. 5. A typical intracanalicular growth pattern, with leaf-like growths in the lumen of the dilated duct. The growths had covered with a flattened single-row atrophic epithelium. Left-peripheral liposarcomatoid metaplasia of stroma (H&E ×100)

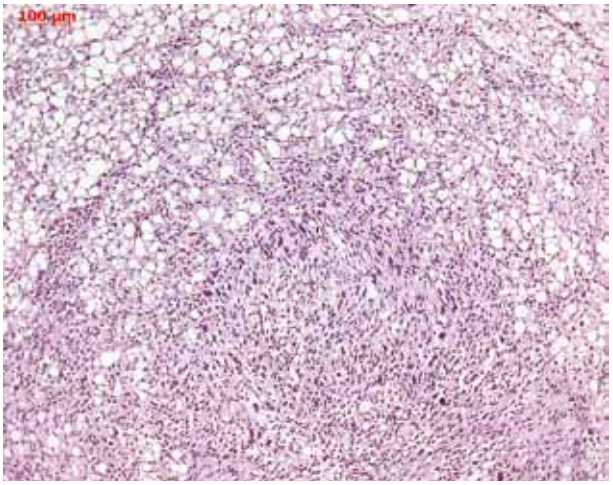

Fig. 6. The area of liposarcomatoid metaplasia represented by dedifferentiated liposarcoma (H&E ×200)

Fig. 7. Ki 67-positive cells in giant phyllodes tumor (×100)

be made solely based upon patient preference and has no contraindication.

Adjuvant therapy options mainly include radiation therapy, which found to reduce local recurrence. No treatment benefit was found after adjuvant chemotherapy and its role remains uncertain. The prognosis of phyllodes tumors is good, with an 87% 10-year survival [5, 9, 10]. Patients with phyllodes tumors of breast should receive long-term follow-up.

REFERENCES

1. **Chelius M**. Naegele und Puchelt. Heidelberg Germany: 1827. Neue Jahrbucher Der Teutschen Medicin and Chirurgie.

2. The World Health Organization histological typing of breast tumors — Second edition. The World Organization. Am J Clin Pathol 1982; **78**: 806–16. doi: 10.1093/ajcp/78.6.806

3. **Rowell MD, Perry RR, Hsiu JG, *et al***. Phyllodes tumours. Am J Surg 1993; **165**: 376–9. doi: 10.1016/s0002-9610(05)80849-9

4. **Islam S, Shah J, Harnarayan P, Naraynsingh V**. The largest and neglected giant phyllodes tumor of the breast — a case report and literature review. Int J Surg Case Rep 2016; **26**: 96–100. doi: 10.1016/j.ijscr.2016.07.022

5. **Hsu SD, Chou SJ, Hsieh HF, *et al***. Giant malignant mammary phyllodes tumor: report of a case and review of the literature. Onkologie 2007; **30**: 45–7. doi: 10.1159/000098219

6. **Noguchi S, Motomura K, Inaji H, *et al*.** Clonal analysis of fibro-adenoma and phyllodes tumor of the breast. Cancer Res 1993; **53**: 4071–4.

7. **Yasir S, Gamez R, Jenkins S, *et al***. Significant histological features differentiating cellular fibroadenoma from phyllodes tumor on core needle biopsies. Am J Clin Pathol 2014; **142**: 362–9. doi: 10.1309/AJCPZUZ96RESGPUP

8. **Komenaka IK, El-Tamer M, Pile-Spellman E, *et al***. Core needle biopsy as a diagnostic tool to differentiate phyllodes tumor from fibroadenoma. Arch Surg 2003; **138**: 987–90. doi: 10.1001/archsurg.138.9.987

9. **Ruiz-Flores L, Ebuoma LO, Benveniste MF, *et al*.** Case report: metastatic phyllodes tumor. Semin Ultrasound CT MR 2018; **39**: 122–6. doi: 10.1053/j.sult.2017.05.011

10. **Joshi SC, Sharma DN, Bahadur AK, *et al***. Cysto-sarcoma phyllodes: our institutional experience. Australas Radiol 2003; **47**: 434–7. doi: 10.1046/j.1440-1673.2003.01215.x

КЛІНІЧНИЙ ВИПАДОК ГІГАНТСЬКОЇ ФІЛОЇДНОЇ ПУХЛИНИ МОЛОЧНОЇ ЗАЛОЗИ

***В.В. Зайчук*[1], *А.А. Самусєва*[1,2], *М.В. Дятел*[3], *М.М. Плодієнко*[3]**

[1]Національний медичний університет імені О.О. Богомольця, Київ

[2]Національний університет охорони здоров'я України імені П.Л. Шупика, Київ

[3]Київський міський клінічний онкологічний центр, Київ

Філоїдні пухлини є рідкісними новоутвореннями молочної залози, які часто помилково діагностуються як фіброаденоми і важко піддаються лікуванню за допомогою ад'ювантної терапії. У статті ми представляємо випадок гігантської філоїдної пухлини молочної залози.

Ключові слова: гігантська філоїдна пухлина, гігантська фіброаденома, пухлина молочної залози.