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BREAST PHYLLODES TUMORS

Helidon NINA, Oreste BUONOMO, Giuzeppe PETRELLA, Dimitri VARVARAS, Majlinda BUBA, Gëzim XHEPA, Klara MERGO

Service of breast center, Hygeia Hospital Tirana, ALBANIA
Service of Oncology, University Hospital Center Tirana, ALBANIA
Service of Oncology at University Hospital "Tor Vergata", Roma, Italy

Abstract

Phyllodes tumors account for 0.3% to 0.9% of all breast tumors. This very rare breast tumor develops in the stroma (connective tissue) of the breast, in contrast to carcinomas, which develop in the ducts or lobules. Other names for these tumors include phylloides tumor and *cystosarcoma phyllodes.* These tumors are usually benign but on rare occasions may be malignant.

Aim: diagnoses and right treatment of breast phyllodes tumors regarding their histology results at Hygeia Hospital Tirana and Oncology Service in U.H.C.

Material and methods: We select 26 patients diagnosed and treated for phyllodes breast tumors for the period January 2008- august 2012 by their presenting at Hygeia Hospital Tirana and Oncology Service at the University Hospital Center.

Results: Occur almost exclusively in females. Rare case reports have been described in males. Phyllodes tumors can occur in people of any age; however, the median age is the fifth decade of life. Histology of the phyllodes tumor reveals a stromal and epithelial component, and it is the stromal component that is responsible for local recurrence and distant metastasis. The World Health Organization defines three types of phyllodes tumors based on the histology: benign, low grade (borderline), and high-grade malignant phyllodes tumor. Malignant phyllodes tumors comprise around 25% of all phyllodes tumors. Triple assessment by clinical, radiological and cytological or histological examinations forms the fundamental basis for evaluation of all breast lumps. The preoperative diagnostic accuracy of phyllodes tumor is often poor because mammary phyllodes tumors are rare and their clinical, imaging, cytology and histology characteristics are similar to those of fibroadenomatous breast tumor, which has a high incidence. Benign phyllodes tumors are treated by removing the tumor along with a margin of normal breast tissue. A malignant phyllodes tumor is treated by removing it along with a wider margin of normal tissue, or by mastectomy. Mastectomy is the most reliable procedure with regard to local control, but breast-conservation surgery (like Benelli or Madlain Lejoure techniques) is currently selected in most cases (excluding cases with very large tumors) for aesthetic reasons. The frequency of local recurrence has varied from 8 to 46% in previous reports, and age, tumor size, surgical approach, mitotic activity, stromal overgrowth and surgical margin have been reported as prognosis-predictive factors related to local recurrence. Among these, the most important factor may be the surgical margin.

Conclusion: In excision of phyllodes tumors it is important to achieve a negative surgical margin for good local control. The literature review has shown that the metastatic phyllodes tumor occurs within the first 3 years of primary resection and is invariably fatal with a mean survival of 4 months from the time of diagnosis. Surgery is often all that is needed, but these cancers may not respond as well to the other treatments used for more common breast cancers. When a malignant phyllodes tumor has spread, it may be treated with the chemotherapy given for soft-tissue sarcomas. The role of RT is no clearer.

Key words: *phyllodes, recurrence, margin.*

Introduction

Background

Phyllodes tumors account 0.3% to 0.9% of all breast tumors. This very rare breast tumor develops in the stroma (connective tissue) of the breast, in contrast to carcinomas, which develop in the ducts or lobules. Other names for these tumors include *phylloides tumor* and *cystosarcoma phyllodes*. These tumors are usually benign but on rare occasions may be malignant.

Aim

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Material and methods

We select 26 patients diagnosed and treated for phyllodes breast tumors for the period January 2008-august 2012 by their presenting at Hygeia Hospital Tirana and Oncology Service at the University Hospital Center.

Results

Sex. Phyllodes tumors occur almost exclusively in females. Rare case reports have been described in males. In our analyses all the patients are female.

Age. Phyllodes tumors can occur in people of any age; however, the median age is the fourth-fifth decade of life. In our analyses the median age of patients is 38.2 years (interval 18 - 66 year).

Clinically phyllodes tumors are smooth, rounded, usually painless multinodular lesions that may be indistinguishable from fibroadenomas. Skin ulceration may be seen with large tumors, due to pressure necrosis rather than invasion of the skin by malignant cells. T of the tumor has an average dimension 6.1 cm (interval 1.5–16 cm).

Histology of the phyllodes tumor reveals a stromal and epithelial component, and it is the stromal component that is responsible for local recurrence and distant metastasis. Bulk of the mass is made up of connective tissue, with mixed areas of gelatinous, edematous areas. Cystic areas are due to necrosis and infarct degenerations. Phyllodes has greater activity and cellular component than fibroadenoma (3mitoses/ hpf).

Types of phyllodes tumors based on the histology in 26 patients of this analyses:

- benign – 21 patients (80%).
- low grade (borderline) – 2 patients (7%).
- high-grade malignant phyllodes tumor – 3 patients (11%).

Diagnosis

Triple assessment by clinical, radiological and cytological or histological examinations forms the fundamental basis for evaluation of all breast lumps. The preoperative diagnostic accuracy of phyllodes tumor is often poor.

Laboratory Studies: No specific hematologic tumor markers or other blood tests can be used to diagnose cystosarcoma phyllodes.

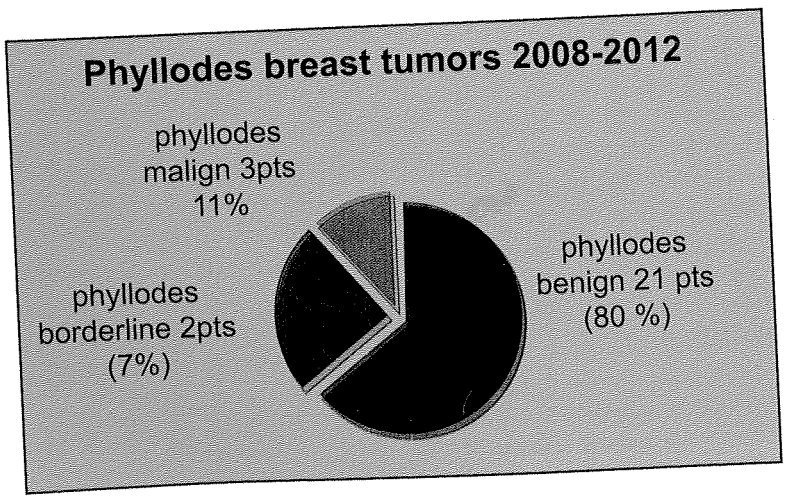
Imaging Studies: *Mammography* phyllodes_tumor appears as a large round or oval mass with well-defined edges. Sometimes the tumor might look like it has rounded lobes inside it. Calcifications can show up as well. Calcifications are tiny flecks of calcium, like grains of salt, in the soft tissue of the breast. We have use it in 67 % of our patients, that is depending by the age of patients and the its importance second every case.

Ultrasound phyllodes_tumors look like well-defined masses, solid, macrolobulated hypoechoic mass sometimes not homogeneous, or with cystic spaces. May have posterior enhancement. It has been use in all patients (100%).

Mammography and ultrasonography are notoriously unreliable in differentiating benign cystosarcoma phyllodes from fibroadenomas.

MRI Phyllodes breast tumors and other fibroadenomas cannot be precisely differentiated on breast MRI. Phyllodes tumors have benign morphologic features and contrast enhancement characteristics suggestive of malignancy in 33% of cases. MRI gave the most accurate image of these tumors and helped surgeons to plan their operations. Even if the tumor was quite close to the chest wall muscles, the breast MRI could give a better image of a Phyllodes tumor than a mammogram or ultrasound. In our analyses MRI is used in 20% patients, this due to no possibility (financial and logistic) of patients.

a. T-1 before contrast administration,
b –c 1–7 min after contrast administration,
d. T-2 weighted image.



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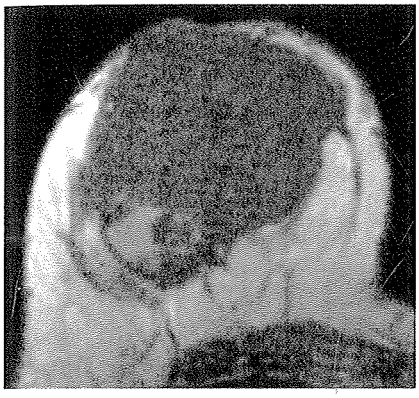

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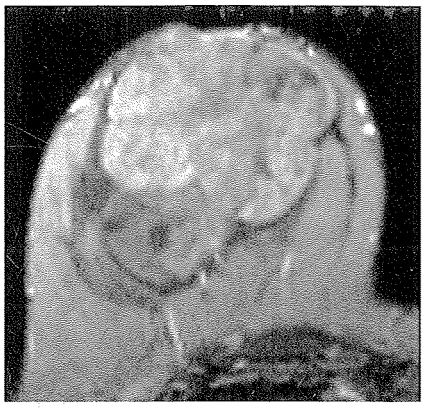

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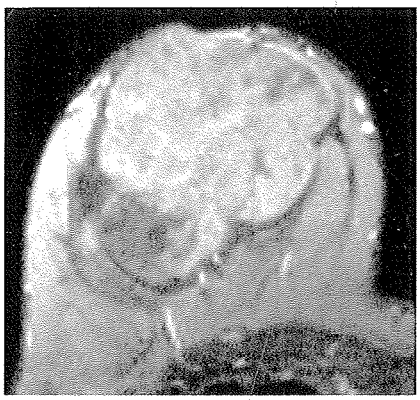

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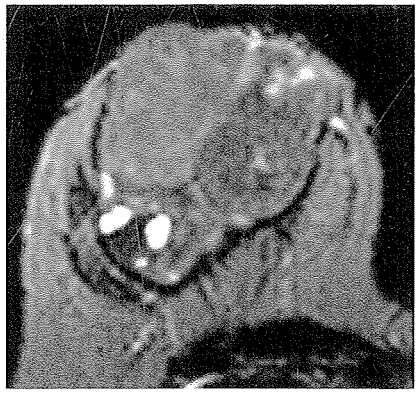

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Diagnostic Procedures

Fine-needle aspiration for cytologic examination usually is inadequate for the diagnosis of phyllodes tumors, but is the only use in our daily work in Service of Oncology in U.H.C Tirana in 85% of patients.

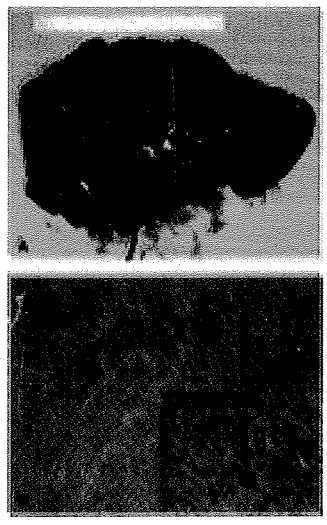
Core bioppsy is more reliable, but there still can be sampling errors and difficulty in distinguishing the lesion from a fibroadenoma. This is the main preoperatore procedure in Hygeia Tirana Hospital and been use in 15% of patients.

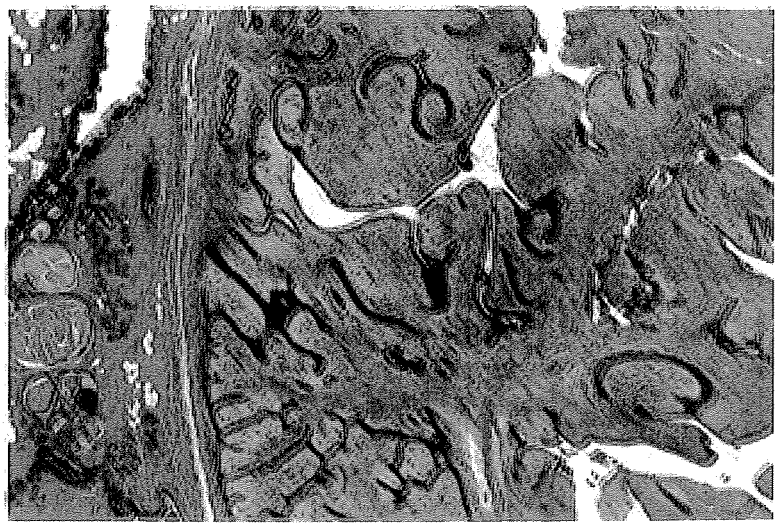
Open excisional breast biopsy for smaller lesions or ***incisional biopsy*** for large lesions is the definitive method for diagnosing phyllodes tumors.

Differential Diagnosis

With other tumors that increase rapidly:

- Sarcoma
- Linfoma
- Midolllar Carcinomatosis





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Malignant phyllodes tumors

Malignant phyllodes tumor is a rare and potentially aggressive breast neoplasm, comprise around 25% of all phyllodes tumors, is an unpredictable disease entity. In our analyses has result 3 patients with malign phyllodes tumor.

Malignant component is dependent on: a) Number of mitotic figures/hpf; b) Vascular invasion; c) Lymphatic invasions; d) Distant metastasis.

The incidenc of local recurrence and distant metastasis has been reported at 26% & 25%. Metastatic phyllodes tumors are invariably fatal with very few reports of long-term survival.

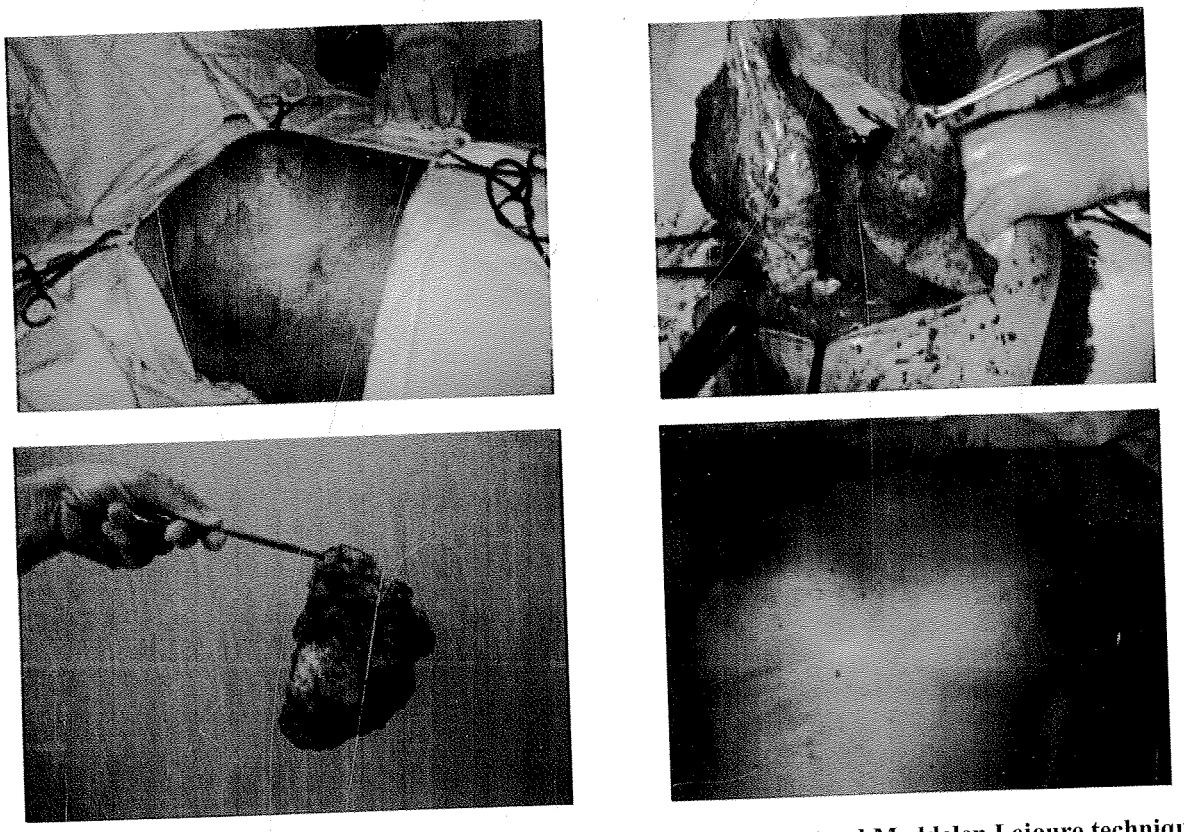
Treatment of phyllodes tumors

Surgery is the primary mode of treatment for phyllodes tumor and is the standard treatment.

Benign and relatively small phyllodes tumors are treated by removing the tumor along with a margin of normal breast tissue. Large benign tumors may require a mastectomy so as to remove both the tumor and a clean margin of breast tissue.

A malignant phyllodes tumor is treated by removing it alone with a wider margin of normal tissue, or by mastectomy.

Mastectomy is the most reliable procedure with regard to local control, but breast-conservation surgery is currently selected in most cases (excluding cases with



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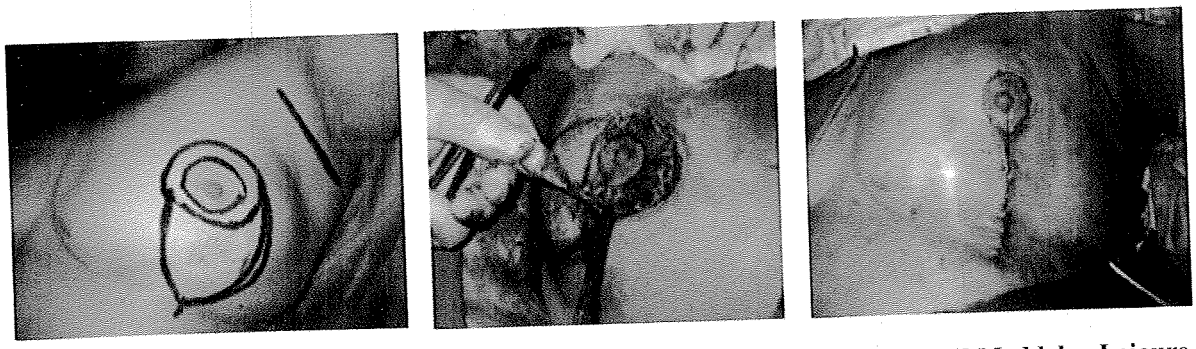

Dg. Malignant Phyllodes Int. Large ekscizion and mammary reconstraction second Maddelen Lejoure technique with axillary dissection

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very large tumors > 5 cm) for aesthetic reasons.
In our analyses Mastectomy is used in 9 patients (34.6%), this due to dimension of the tumor (> 5 cm) and malign histological result.
The breast-conservation surgery included various types ranging from enucleation of the tumor to wide excision to ensure a negative tumor margin (like Benelli; Madlain Lejoure techniques or mammary reduction in larg breast). These techniques have been use in 17 patients (65.4%), with good estetical results.

Discussion

Phyllodes tumors can occur in people of any age; however, the median age is the fourth-fifth decade of life. Phyllodes tumors, different from fibroadenomas, tend to grow more quickly and develop about 10 years later in life — in the 40 years as opposed to the 30 years (of fibroadenomas). Phyllodes tumors occur almost exclusively in females.
The preoperative diagnostic accuracy of phyllodes tumor is often poor because mammary phyllodes tumors are rare and their clinical, imaging, cytology and histology characteristics are similar to those of fibroadenomatous breast tumor, which has a high incidence. Diagnostic problem separating it from *fibroadenoma* and it's rare variant that is malignant.

The frequency of local recurrence has varied from 8 to 46%.
Prognosic-predictive factors related to local recurrence are:

Age	histologic subtype
mitotic activity	lymph node status
tumor necrosis	radiotherapy procedures
tumor size,	surgical approach
stromal overgrowth	surgical margin
hormone receptor status	

The most important factor is the surgical margin. In excision of phyllodes tumors it is important to achieve a negative surgical margin for good local control. Therefore, a goal of surgical treatment is to ensure a negative surgical margin after excision. Is very significant to have preoperative diagnoses of phyllodes tumors, to achieve excision ensuring a negative surgical margin. Negative surgical margin independently predicts improved disease-free survival and decrease local recurrence.
Local recurrence was correlated with the status of the surgical margin, and the incidence of local recurrence was very low in cases with 1 cm or wider margins
Furthermore, there are no established therapeutic guidelines for surgical stump-positive phyllodes tumors
We recommend ensuring inclusion of the tumor margin by re-excision in cases with a positive surgical margin and stromal overgrowth, and malignancy.
Cases with negative stromal overgrowth and a benign/ borderline tumor have a local recurrence rate of 23%, and we propose that a 'wait-and-watch' policy is acceptable in these cases.
There is no significant difference in survival outcomes with wide excision compared with mastectomy in the primary treatment setting. Higher local recurrence rates have been reported with conservative excision compared with mastectomy, but thus far the increase in local recurrence has not appeared to translate into a decrement in survival.
The role of radiotherapy and systemic therapy in phyllodes tumor is unclear. This type of tumor does not respond well to radiation, chemotherapy, or hormonal therapy. Radiotherapy is not used for bening or borderline lesions but has been combined with wide excision in management of malignant phyllodes tumors. No series has shown radiation therapy to be of benefit in the primary treatment of phyllodes tumors. Adjuvant radiotherapy should be considered when wide margins are not possible.
The metastatic phyllodes tumors tend to behave like sarcomas with lung as the most common site. The systemic therapy is based on the guidelines for treating soft-tissue sarcomas. Axillary metastases are seen in fewer than 5% of cases and an axillary dissection is not indicated unless worrisome nodes are clinically evident.
The characteristics of a malignant phyllodes tumor include the following:

- Recurrent malignant tumors seem to be more aggressive than the original tumor. The risk of metastatic spread seems to not be influenced by the extent of initial surgery, but to be predetermined by tumor biology.
- The lungs are the most common metastatic site (70% to 80%), pleura (60% to 70%), bone (20% to 30%), followed by heart, and liver.
- Symptoms from metastatic involvement can arise from as early as a few months to as late as 12 years after the initial therapy.
- Most patients with metastases die within 3 years of the initial treatment.
- No cures for systemic metastases exist.
- Roughly 30% of patients with malignant phyllodes tumors die from the disease.

Prognosis for Phyllodes Tumor:
For ***benign phyllodes*** tumor after surgery, prognosis is very good. There is a low chance of recurrence for a phyllodes tumor, if the age is 45 or older. For patients with a diagnosis of borderline or malignant tumors, prognosis will vary.
Borderline tumors have the potential to become cancerous, and even after surgery, if some cells remain (although in rare cases) they will metastasize.
Malignant tumors can recur even two years after treatment and may spread to lungs, bones, liver and

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chest wall. In a few cases, lymph nodes will be involved as well.

Conclusion

In excision of phyllodes tumors it is important to achieve a negative surgical margin for good local control. The literature review has shown that the metastatic phyllodes tumor occurs within the first 3 years of primary resection and is invariably fatal with a mean survival of 4 months from the time of diagnosis Surgery is often all that is needed, but these cancers may not respond as well to the other treatments used for more common breast cancers. When a malignant phyllodes tumor has spread, it may be treated with the chemotherapy given for soft-tissue sarcomas. The role of RT is no clearer.

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