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Short Report

The Largest Phyllodes Breast Tumor in The World: A Case Report

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ABSTRACT

Phyllodes tumor of the breast is an uncommon fibroepithelial neoplasm constituting 0.3% to 0.5% of female breast tumors. Complete wide local excision is frequently used for treatment and risk reduction in local recurrence. This article aims to report the largest phyllodes breast tumor ever reported worldwide. We report the case of a 24-year-old Thai woman was admitted to our hospital with a massive ulcerofungating right breast mass. Her physical examination revealed a 59 cm diameter mass over her right upper body, in which most parts were infected and ulcerated. A right mastectomy was then performed after the patient had already been treated with intravenous antibiotics for infection control and when her nutrition status had improved. This was followed by Vacuum-Assisted closure of the wound, and split-thickness skin graft, which could be performed after there was a good granulation growth at the wound base. Additionally, after histopathology examination, a 59x53x26 cm malignant Phyllodes tumor with free margins, weighing 14,500 grams, in which there was around 20% tumor necrosis, 12/10 high power fields (HPFs) of Mitosis, and the unaffected nipple was observed. The patient was discharged from the hospital after 45 days, and there was no evidence of local and distant recurrence after a one-year follow-up. Phyllodes tumors are considered unusual fibroepithelial breast tumors that have various biological behaviors, in which surgical resection is a major option for treatment.

Keywords: breast cancer, breast mass, fibroepithelial tumor, giant, phyllodes

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INTRODUCTION

Phyllodes tumor of the breast is an uncommon fibroepithelial neoplasm, accounting for 0.3% to 0.5% of female breast tumors[1]. It primarily affects women aged 40 to 50 years old[2]. Histologically, phyllodes tumors are classified as benign, borderline, or malignant, with benign being the most frequent (60–75%)[3]. These tumors typically exhibit rapid growth but are clinically benign. They often present as unilateral, firm, painless breast masses that can enlarge, stretch the overlying skin, and cause distension of superficial veins. While less common, fixation to the skin or pectoralis muscles, and even ulceration, have been reported. Phyllodes tumors vary in size, ranging from 1 to 45 cm, and can potentially occupy the entire breast, although only 20% exceed 10 cm[4–6].

Treatment usually involves wide local excision to reduce local recurrence risk, while mastectomy may be necessary for larger tumors. The use of adjuvant chemotherapy, radiotherapy, or hormonal therapy remains controversial, lacking strong evidence of benefit.

This report presents an unusual case of a 24-year-old woman with one of the largest documented phyllodes breast tumors, weighing 14,500 grams, and discusses its management.

CASE REPORT

A 24-year-old Thai woman with no prior medical history presented to our hospital with a massive, ulcerated, and fungating right breast mass. Two years prior, she had noticed a small lump in her right breast, which gradually increased in size. Due to personal fears and beliefs, she opted for alternative medicine over surgical intervention. By the time of admission, the mass had grown significantly, hindering her daily activities.

Physical examination revealed a 59 cm diameter mass encompassing her right upper body, with extensive areas of infection and ulceration. The overlying skin was stretched and exhibited dilated veins (Figure 1). Chest and upper abdomen computed tomography demonstrated a heterogeneous mass invading the pectoralis muscle, without rib destruction or distant metastasis (Figure 2). Given the compelling clinical evidence, preoperative tissue diagnosis was not pursued.

Following intravenous antibiotics for infection control and nutritional optimization, the patient underwent a right mastectomy. Vessel sealing technology (Harmonic Scalpel by Ethicon®) was employed to mitigate blood loss due to the mass's high vascularity. The breast and entire pectoral

Figure 1 A huge mass, with large areas of infection and ulceration. The skin over the mass was stretched and revealed dilated veins

muscle were removed with a 1 cm margin (Figure 3), but lymphadenectomy was not performed. Vacuum-assisted closure was applied, followed by a split-thickness skin graft after granulation tissue developed. The patient declined adjuvant radiation therapy due to concerns about potential complications.

Histopathological examination revealed a 59x53x26 cm malignant phyllodes tumor weighing 14,500 grams, with free margins, approximately 20% tumor necrosis, 12 mitoses per 10 high-power fields, and an unaffected nipple (Figure 4). The patient was discharged after 45 days and resumed her daily activities. At one-year follow-up, there was no evidence of local or distant recurrence.

DISCUSSION

Phyllodes tumors of the breast are rare fibroepithelial neoplasms that pose a therapeutic challenge for surgeons. While most commonly found in women aged 40 to 50, they can occur at any age, as demonstrated by this case involving a woman in her twenties. Phyllodes tumors vary in size, ranging from 1 to 45 cm[4-6], but the present case describes an exceptionally large 59 cm diameter tumor with extensive ulceration and infection.

Complete surgical excision with a margin greater than 1 cm is the standard treatment for phyllodes tumors, aiming to reduce local recurrence risk[7]. However, mastectomy is often preferred for large tumors to ensure clear margins. In cases of chest wall invasion, extended resection of the pectoral muscle and chest reconstruction may be necessary[6]. Adjuvant radiotherapy benefits patients with adverse features such as positive margins, hypercellular stroma, high nuclear pleomorphism, high mitotic rate, necrosis, or increased vascularity. In this case, the patient declined adjuvant radiation therapy.

Recurrence rates vary depending on tumor grade, ranging from 8-10% for benign tumors to 14-20% for borderline and 29-50% for malignant tumors10. Malignant phyllodes tumors can also metastasize to distant organs via the lymphovascular system in 9-27% of cases. Therefore, close follow-up is recommended for the first two years, with visits every six months, as this is the period of highest recurrence risk[10].

This case involved a massive malignant tumor measuring 59x53x26 cm and weighing 14,500 grams, with extensive ulceration. Remarkably, the patient remains free of local or distant recurrence one year after surgery.

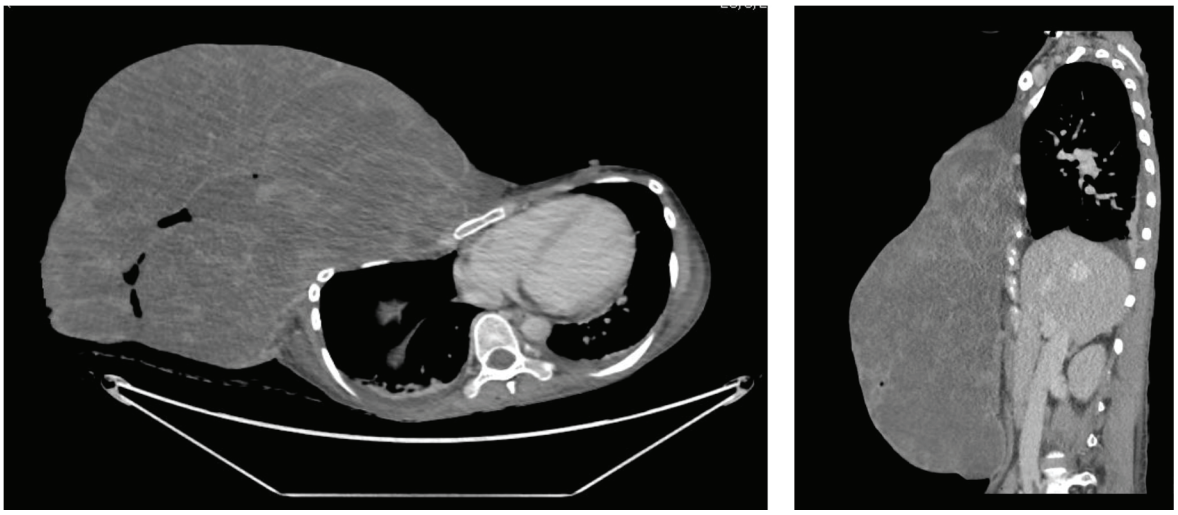

Figure 2 CT scan of a large ulcerative heterogeneous enhancing mass at right breast, invading the pectoralis muscle without rib destruction

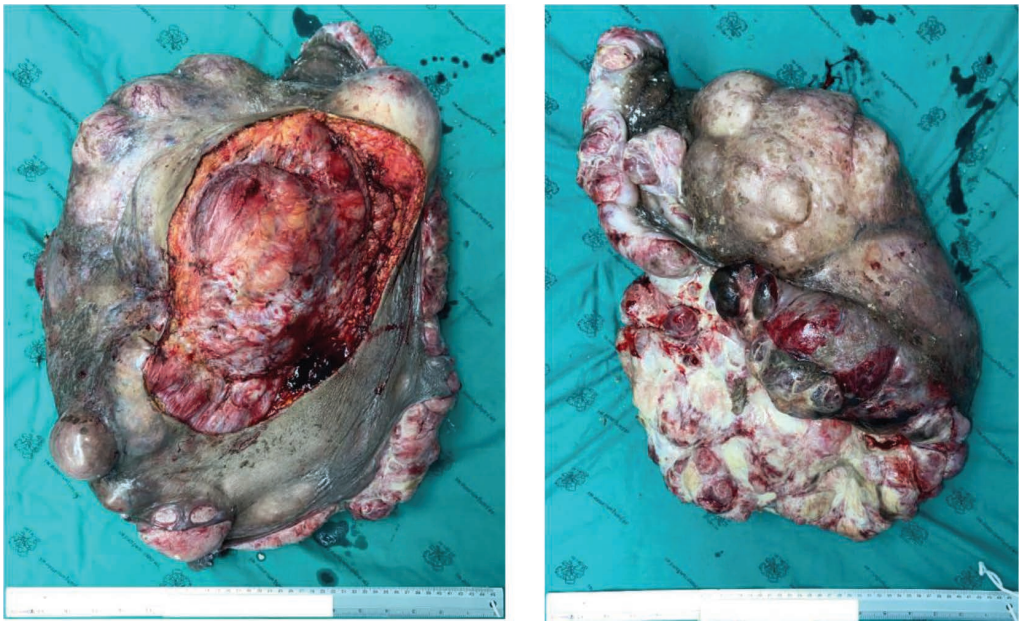

Figure 3 Right breast mass specimen, with the entire pectoral muscle being removed

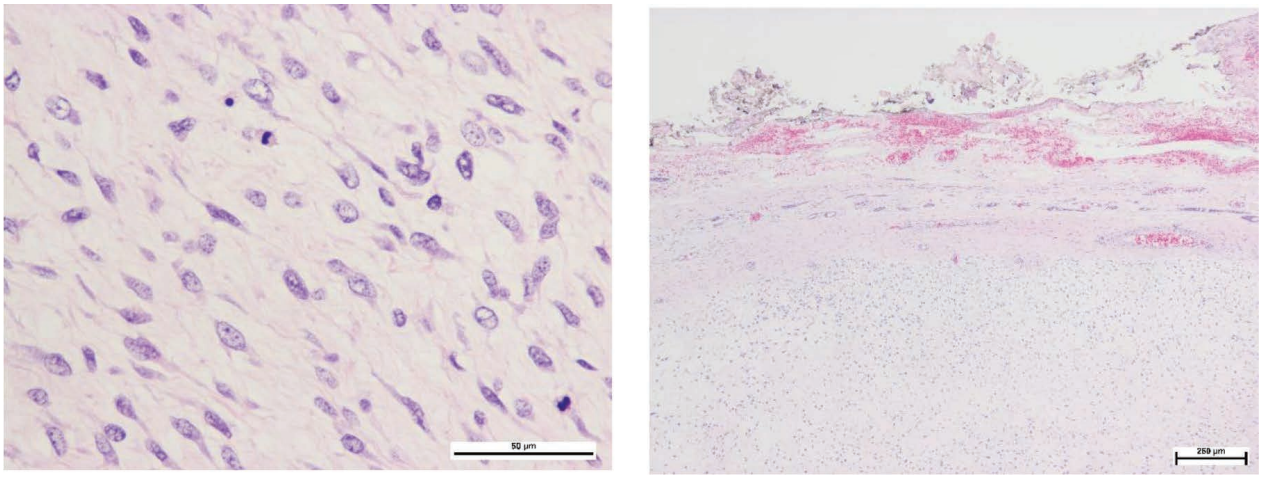

Figure 4 The histology examination revealed a malignant Phyllodes tumor with free margins. The tumor necrosis was approximately 20%: Mitosis 12/10 high power fields (HPFs)

CONCLUSION

Phyllodes tumors are rare fibroepithelial breast tumors with diverse biological behaviors. Approximately 20% of all phyllodes tumors are classified as giant phyllodes tumors, for which surgical resection remains the primary treatment modality.

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CONFLICT OF INTEREST

There are no conflicts of interest to be declared.

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