



## An Uncommon Presentation of Gastric Metastasis of a Breast Cystosarcoma Phyllodes Tumor

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### Abstract

The aggressiveness of cystosarcoma phyllodes tumors, although rare, presents a very poor prognosis for patients. Due to the uncommon cases where cystosarcoma phyllodes tumor do metastasize, it is important to have a better understanding of the management of these patients. Likewise, since metastasis could occur rapidly and to a variety of organs, we want to emphasize that all physicians involved in these cases need to have a clear idea of the potential aggressiveness of these tumors, particularly those that metastasize. In this case report, we present a rare gastric metastasis of a breast cystosarcoma phyllodes tumor. A 61-year old woman presents with a malignant gastric metastasis of phyllodes tumor after years of managing her local breast and axillary recurrences. In the management of this case, a careful CT Scan reading may have had an impact on the care offered to the patient. With this case report, we also want to focus on the little amount of information and research advancements regarding this type of tumor. We emphasize the necessity of more research in phyllodes tumors to enhance the guidelines of care and improve the prognosis of such diagnosis, specially when the tumor metastasize.

**Keywords:** Cystosarcoma phyllodes; Malignant tumor; Metastasis, Phyllodes tumors

### Introduction

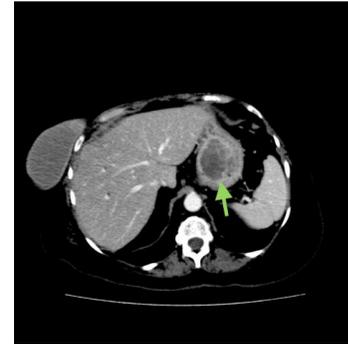
Cystosarcoma phyllodes are rare fibroepithelial tumors that makes up 0.3-0.5% of all breast neoplasms [1]. Although most phyllodes tumors are benign (64% are described as benign), some are described as borderline and malignant, and may metastasize [2]. They are classified based on histological parameters that include degree of stromal cellularity and atypia, mitotic count, stromal overgrowth, and nature of the borders [3]. Molecular biological features of cystosarcoma phyllodes may be confused with other pathologies, for example, with primary breast sarcoma or spindle cell metaplastic carcinoma [4]. Local recurrence of cystosarcoma phyllodes is common and can be cured by local surgery. Most literature shows that patients with recurrent cystosarcoma phyllodes die within a year after being diagnosed with a recurrent metastasized tumor. Likewise, there is a lot of controversy about the treatment for phyllodes tumors and the ability to predict outcome is poor. There is no consensus on the appropriate surgical margins necessary to ensure risk reduction of

recurrence [4], however, when malignant it is important to achieve wide margins [2]. Moreover, according to a study published in 2016, postoperative radiotherapy could have an impact on recurrence and should be evaluated since it appears to decrease the local recurrence rate in certain presentations [5]. The most common places for metastasis are lungs and bones, there was one rare case previously reported of a phyllodes tumor metastasized to the stomach [6]. With regards to the specific molecular biology of cystosarcoma phyllodes, mutations and/or deletions of NRAS, RB1 and TP53 genes [7] have been reported. An increased risk of phyllodes tumor has been described among women with Li-Fraumeni syndrome.

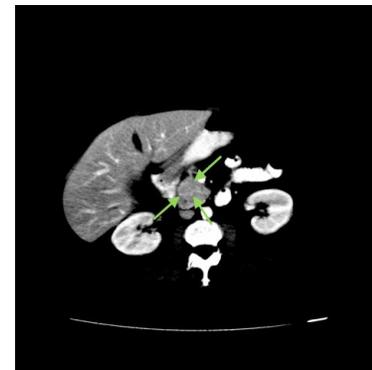
### Case reports and Results

A 61-year-old woman was referred to the gastroenterology clinic with acute abdominal pain and emesis for a 2-week duration. In 1997, patient was diagnosed with a benign phyllodes tumor (cystosarcoma phyllodes) in the left breast and had a bilateral mastectomy. In 2000, patient had recurrence of the tumor in the right breast and right axillary area and had surgery to remove the masses. Her family history was significant for a paternal uncle with

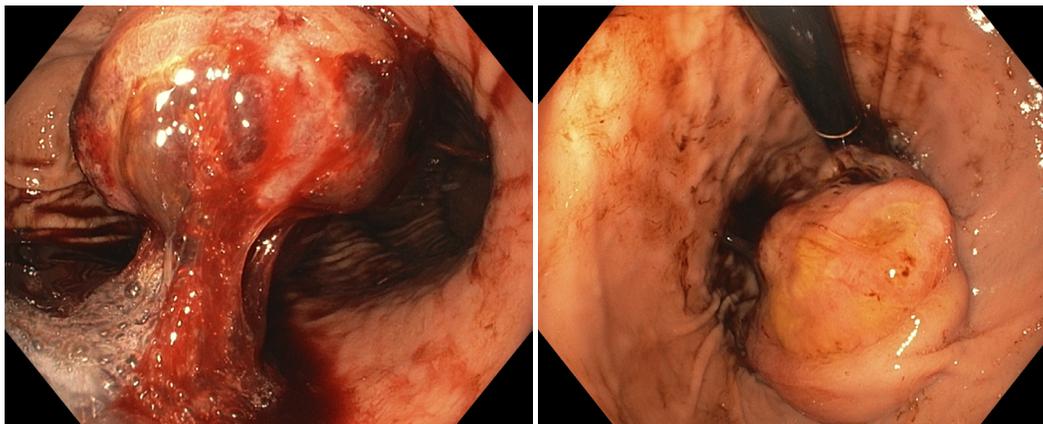
prostate cancer, two paternal first cousins with kidney and brain cancer; no family members with breast cancer. Patient had genetic testing done and results showed negative germline mutation for p53 gene. Patient remained asymptomatic until July 2018 when she developed a pain in the left armpit region and a palpable lesion. A CT Scan was done in July 2018 to evaluate patient's symptoms that only revealed a space occupying lesion in the left axillary region. Patient underwent surgery (interscapulothoracic amputation) to remove the mass, which was histologically consistent with previously removed breast tumor. According to the pathology report that stated: malignant spindle cell tumor, compatible with the given history of recurrent malignant phyllodes tumor. In October 2018, patient presented to the ER with acute abdominal pain and vomiting; an abdominopelvic CT Scan revealed a gastric fundus mass (Figure A, arrow) and a peripancreatic mass (Figure B, arrow). Gastroenterology service was consulted for an emergency upper gastrointestinal endoscopy that revealed a large fundic mass (Figures C and D) measuring about 4 cm in diameter. Pathology report for the biopsy revealed "gastric mucosa with interspersed round-to-short spindle malignant cells" consistent with previously diagnosed breast tumor. Patient was hospitalized due to anemia (Hgb 9.0 g/dL; normal range: 11.2-15.7 g/dL) and required blood transfusions. Patient was consulted to oncology service for palliative chemotherapy, but was sent to hospice and passed away in December 2018.



**Figure A:** CT Scan image showing a gastric fundus mass.



**Figure B:** CT Scan image showing a peripancreatic mass.



**Figures C and D:** Upper gastrointestinal endoscopy image showing a large fundic mass from different angles.

## Discussion

According to previous case reports, cystosarcoma phyllodes, once metastasized has a very poor prognosis. It is important to share this case because it will allow other physicians to learn of this possible diagnosis and to understand the prognosis of patients that might be diagnosed with a metastatic phyllodes tumor. These aggressive tumors should be followed very closely and removed as quick as possible when they appear and recur. In the management of this case, a careful CT Scan reading may have had an impact on the care offered to the patient. After the amputation of the left upper limb, the quality of life of the patient declined rapidly and, this decline, could have been avoided if early metastasis would have been caught before the surgery. For further management of similar cases, we suggest giving the

radiologist a clear, full history that focuses on the aggressiveness of the tumor in order to receive a meticulous reading of the scans. Furthermore, research is needed to characterize the genetic profile and develop better surveillance and treatment strategies for patients diagnosed with cystosarcoma phyllodes, along with good diagnostic and prognostic tools to evaluate and differentiate between benign and possibly metastatic cases. Consensus in all of these areas (diagnosis, management and treatment) need to be achieved in order to improve prognosis of patients with malignant phyllodes tumors.

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