

## CASE REPORT

**BENIGN PHYLLODES TUMOUR WITH CYSTIC SQUAMOUS METAPLASIA: A RARE HISTOLOGY FINDING**Shaista Zafar<sup>1</sup>, Tagwa Elsheikh<sup>2</sup>, Mirza Sharjil Baig<sup>3</sup>, Javeria Iqbal<sup>2</sup><sup>1</sup>Pakistan Institute of Medical Sciences Islamabad-Pakistan<sup>2</sup>Sandwell and West Birmingham Hospitals Trust-UK<sup>3</sup>Cellular Pathology Black Country Pathology Services-UK

Phyllodes tumour (PT) comprises 0.3–1% of all breast cancers and 3% of fibroepithelial neoplasm. It occurs more commonly in the fourth and fifth decades of life. Fibroepithelial neoplasms are composed of cell types with two different origins, commonly mesenchymal and epithelial. Histological features are important as this forms the basis of the categorization of PT into benign, borderline and malignant types, thus facilitating management. Metaplasia in any of the two components of PT is rare and the cystic squamous type of metaplasia has even more infrequent histological features. Case: This paper presents the case of a 63-year-old female with a palpable lump in the lower outer quadrant of her left breast. Histology showed a benign Phyllodes tumour with patchy, cystic squamous metaplasia within the lesion, keratin production and foreign-body reaction in response to keratin spillage. The previously done core biopsy was also reviewed, which showed focal stromal cell condensation and features overlapping between benign and borderline phyllodes tumours. Conclusion: The case was presented because of its unique and rare histological picture of Cystic squamous metaplasia in benign PT and a further rarer finding of foreign body reaction to keratin spillage.

**Keywords:** Benign Phyllodes Tumour; Borderline Phyllodes; Cystic Squamous; Metaplasia; Histopathology

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## INTRODUCTION

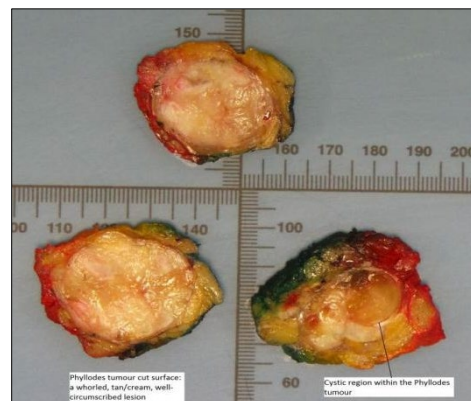
Phyllodes tumours (PTs) are uncommon tumours with biphasic histology, epithelial and mesenchymal cell types. PT form 0.3–1% of all primary breast tumours<sup>1</sup>. The overall incidence is 2.1 in 1000000. It is more common in women in their 40s and 50s. Cystic squamous metaplasia in benign phyllodes is a rare histological feature with only a few cases reported in the literature.

## CASE REPORT

A 63-year-old female was referred to our Rapid Access Clinic with two weeks history of a lump in her left breast's lower outer quadrant. Her general and systemic examination was unremarkable. Breast examination revealed a single painless, firm but irregular lump, around 3 cm, with limited mobility but no involvement of skin and underlying muscle.

The radiological assessment showed a 32 mm U5 ovoid mass on ultrasound and a 36 mm M5 mass on mammography, in the left Lower Outer Quadrant of the Sub areolar Region. The core biopsy of the lesion put on view overlapping features of benign and malignant phyllodes. An excision with margins was performed. The excised mass was sent to the Department of Pathology, Sandwell and West Birmingham Hospitals Trust.

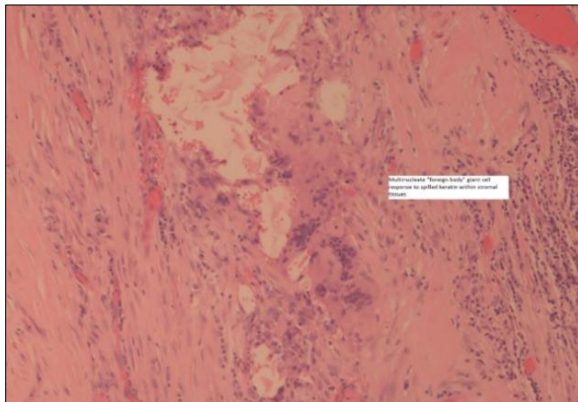
Macroscopically the cut surface was variably white, creamy and tan in colour. There were some possible fatty deposits in the tumour as well. The periphery of the lesion was smoothly contoured. Microscopically it was a fibroepithelial lesion, showing substantial stromal overgrowth and leaf-like architecture. Mild stromal cellularity and atypia. There was rare mitosis (less than 1 per 20 HPF) and patchy, cystic squamous metaplasia within the lesion, with ample keratin production as a consequence. Foreign-body reaction in response to keratin spillage was also noted.



**Figure-1: A gross examination of the cut surface showing well-circumscribed lesions and areas of cystic degeneration**



**Figure-2: Microscopic view showing stromal and component, keratin debris within the cyst and metaplastic squamous epithelium arising within phyllodes tumour.**



**Figure-3: Microscopic view showing multinucleate foreign body giant cells response to spilled keratin within stromal tissues.**

## DISCUSSION

Phyllodes tumours form 0.3–1% of all breast cancer. In this case, it presented at the age of 63 years which is relatively more than the usual age of presentation (fourth or fifth decade). Hypercellular expanded stroma associated with epithelial elements arranged as cystic or cleft-like spaces is the sine qua non of the PT.<sup>3–5</sup> To facilitate clinical management, PT are categorized as benign, borderline a malignant type, depending upon histological features of stromal cellularity, cytological atypia, mitotic activity, stroma epithelium relationship and interface with adjacent uninvolved breast. There are, however, no established criteria for minimal /mild from moderate and marked degrees of stromal hypercellularity and atypia. The categorization has been acknowledged by World Health

Organization (WHO). Benign Phyllodes tumours – as per this case report – typically exhibit a well-circumscribed tumour margin, stromal cellularity without stromal overgrowth, minimal nuclear atypia and few or no mitoses ( $\leq 4/10$  high-power fields (HPFs)).<sup>6</sup> Metaplastic changes of both the epithelium and stroma have been infrequently reported in Phyllodes tumours. Cystic squamous metaplasia of the epithelium, in particular, is very rare.<sup>7,8</sup> A case report by Kumar *et al* showed the same histologic features as seen in our case. There were multiple cystic spaces lined by stratified squamous epithelium. Keratin spillage was noted within the cysts. In between the cysts, there was a cellular stroma of benign morphology.<sup>8,9</sup> Furthermore, our case reported a foreign-body reaction to the above-mentioned keratin spillage, which is not hitherto mentioned in the reviewed literature.

## CONCLUSION

Most of the reported cases show squamous metaplasia in benign and borderline type PT and rarely in malignant PT.<sup>7</sup> This can be inferred that squamous cystic metaplasia is not suggestive of additional malignant features, however, long-term follow-up can provide a more reliable clue about the aggressiveness related to this rare histological feature.<sup>10–12</sup> This Case was presented due to its unique histopathological morphology.

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