Management of recurrent phyllodes with full thickness chest wall resection

R Awwal[a], SA Shashi[b], MS Khondokar[c], SH Khundkar[d]

Abstract:

Phyllodes tumours are biphasic fibroepithelial neoplasms of the breast and each case represents a unique challenge. Even after apparent wide local excision of benign lesions, they recur and recurrences can occur even for 5-6 times. The ultimate end result is chest wall invasion and reconstruction then becomes an essential part of the curative surgical procedure. For a locally advanced breast malignancy, treatment is always palliative with simple coverage and oncologic support. But as Phyllodes tumour is of low aggressiveness, wide excision of even locally advanced malignant phyllodes can result in a good prognosis. Wide and extensive resection always invites the need of reconstruction, and surely it is a challenge when it is for a post-mastectomy recurrent lesion, where the role of plastic surgeons becomes essential. Two such cases are presented where disease control was only possible after full thickness chest wall resection.

Introduction:

Since the original description of Cystosarcoma Phyllodes by Johannes Muller, the tumour has always presented with a diagnostic as well as treatment dilemma. This rare neoplasm represents 3% of fibroepithelial breast tumors, and has been currently named as Phyllodes tumor according to WHO nomenclature [1] Wide local excision with free surgical margin is the mainstay of disease treatment. Recurrence is strongly correlated with inadequate marginal clearance. With large tumor and multiple recurrences, mastectomy may be necessary to provide adequate margin.[1,2] Some patients have recurrence even after mastectomy, when the disease can only be controlled by full thickness chest wall reconstruction.[3] This paper reviews two cases of recurrent Phyllodes that necessitated full thickness chest wall resection, with reconstruction, for a disease free survival.

a. Dr. Rayhana Awwal, FCPS,FRCS(Edin), MS(Plastic), Assistant Professor, Department of Plastic Surgery, Dhaka Medical College and Hospital

b. Dr. Syeda Asmema Shashi, FCPS, MS(Thesis) student, Dhaka Medical College, Dhaka.

c. Dr. Md. Sazzad Khondoker, MS(G. Surgery), FCPS (Surgery), MS(Plastic Surgery), Associate Professor, Department of Plastic Surgery, Dhaka Medical College and Hospital

d. Prof. Shafquat Hussain Khundkar, FCPS(Surgery), FICS(Plastic Surgery), Professor and Head of Department of Plastic Surgery, Dhaka Medical College and Hospital

Address of Correspondence: Dr. Rayhana Awwal, Assistant professor, Dhaka Medical College and Hospital. Tel : 88 02 7110423. Mobile: 01711681162 e-mail: sumi12a@gmail.com.

Case 1:

A 40 year old lady underwent mastectomy for left breast tumour in 1994. Histopathologic examination of the tissue revealed benign phyllodes. 2 years later, in 1996, she presented with a lump at the operated site which was excised through the previous incision line. Subsequently in 1998 and in 2000, she underwent repeated surgeries for recurrent swelling at the same site. In 2004, she developed a nodule at the operated area for which she went for homeopathic treatment. The nodule then progressed to an ulceration and histopathologic examination revealed malignant Phyllodes. She was then treated with resection of the chest wall followed by reconstruction with prolene mesh & LD flap. 5 yrs follow-up of the patient showed no sign of further recurrence.

Fig-1 : fungating ulcerated growth on previous left mastectomy incision.

Fig 2: Defect created after full thickness excision of chest wall.

Fig 5: Flap insetting done & donor defect covered with skin graft.

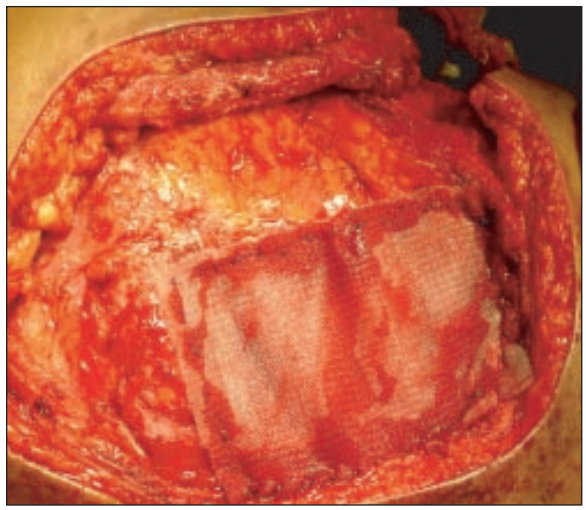

Fig 3: Skeletal stability provided by prolene mesh.

Fig 6: LD flap and the donor defect 5 yrs after surgery.

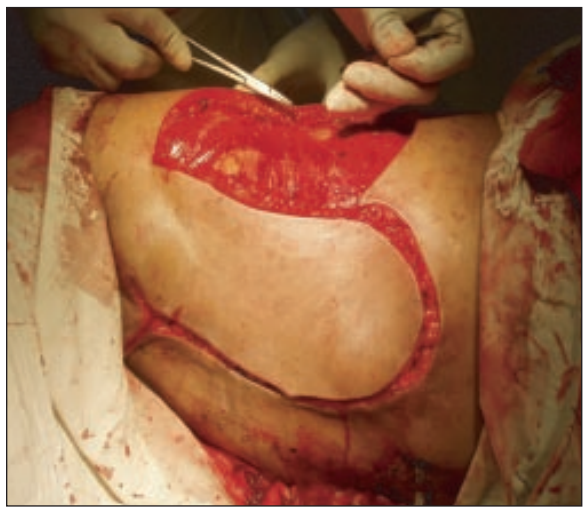

Fig 4: LD flap elevated to cover the defect.

Case 2:

A 28 year old female was referred with recurrent breast tumour after having had multiple previous breast operations. In September 2004, she was admitted in Mymensingh Medical College Hospital with the complaints of a hugely enlarged, tense, congested left breast with surface ulceration, for 3 months. She was treated with simple mastectomy and histopathological examination revealed fibroadenoma. 9 months later, she presented to the same hospital with a lump in mastectomy site for 5 months. The lump was 4cmx5cm in dimensions, mobile and firm in consistency. This time FNAC revealed Phyllodes tumour. Lumpectomy was done with uneventful recovery.

In May 2006, she presented again in Mymensingh Medical College Hospital with a swelling, with foul

smelling discharge, at the operated area for 1 month. FNAC from the lump revealed fibroadenoma but excision biopsy of the lump reported as malignant Phyllodes tumour. She was then referred for radiotherapy.

3 months later she presented to the department of Plastic surgery, Dhaka Medical College Hospital, with an ulceration of right chest wall at the previously operated site. FNAC showed malignant Phyllodes tumor. She was treated with wide local excision and latissimus dorsi flap reconstruction of chest wall followed by post-operative radiotherapy. Metastatic disease was ruled out.

Despite mastectomy and radiotherapy, 3 years later, she presented with a recurrence in the chest wall (LD-flap) which was treated with wide local excision along with axillary clearance. Histopathological examination of the lesion and the removed lymph nodes revealed malignant Phyllodes.

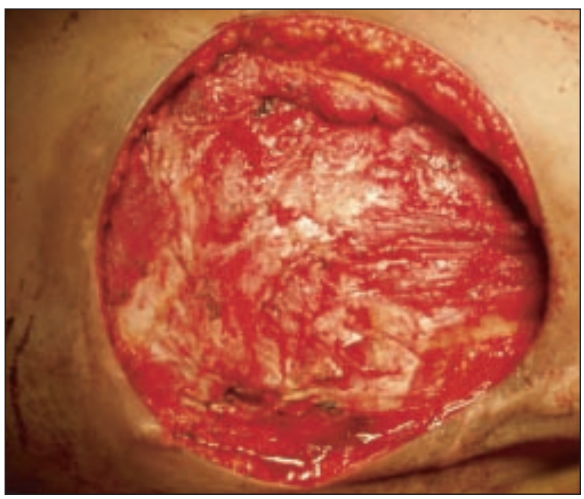

Fig 1: Malignant phyllodes excised

Fig 2 : LD flap elevated

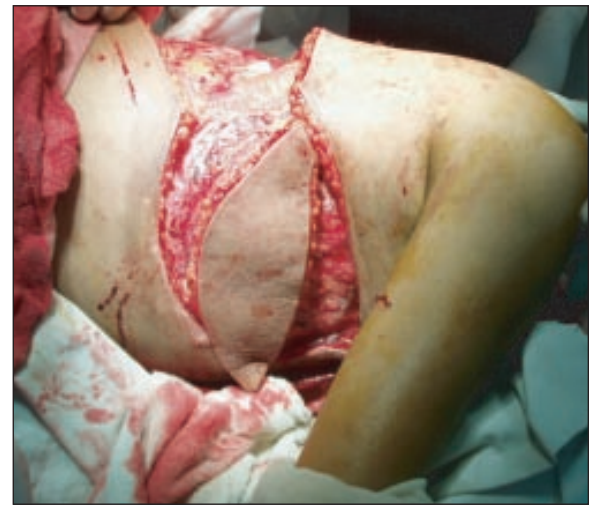

Fig 3: LD flap placed on the defect.

Fig 4: Pt with LD flap having local recurrence

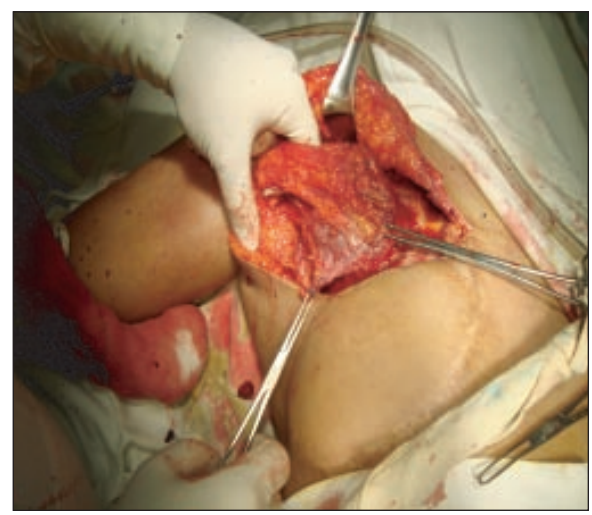

Fig 5: Excision of recurrence along with Pect. major

Fig 6: Excision up to Ribs

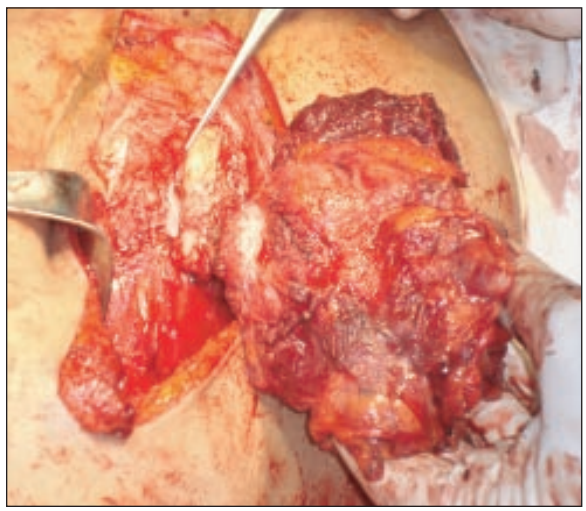

Fig 7: Excision en mass

Fig 8: Postoperative view

Fig - 8: Pt at 1 yr follow up

Discussion:

The Phyllodes tumour of the breast is a rare entity which accounts for 0.3-0.5% of all breast neoplasms[4,5]. They have an incidence of about 2.1 per million, the peak of which occurs in women aged 45-49 years[5]. These biphasic breast tumours are composed of an epithelial component and a cellular, spindle cell stroma forming a leaf-like structure.

Its biological features vary greatly with different individuals and its manifestations range from fibroadenoma-like changes to those of typical sarcomas.There are no pathognomonic mammographic or ultrasound features. Diagnostically, core tissue biopsy represents an attractive means for pre-operative diagnosis and aids in the differentiation of phyllodes tumours from fibroadenomas. Based on microscopic appearance of the stromal component, phyllodes tumours are classified into benign, borderline, and malignant histotypes. However, histological appearance may not correlate with clinical behavior. Approximately 15 to 30% of all phyllodes tumours are classified as malignant[5]. Standard surgical treatment for Phyllodes tumour consists of complete tumour excision with wide radial margin of at least 1-2 cm.[1,2,6] Mastectomy is recommended for large tumour (>10cm), multiple recurrent tumours, and for tumours of <10 cm in a patient with small breast[2]. In general, immediate breast reconstruction can be performed at the time of mastectomy for phyllodes tumours. Axillary dissection is not routine unless nodes are enlarged[1,2]. With adequate treatment, patients remain symptom free for a longer term. Radiotherapy is

required if free margin is not obtainable, in multiple recurrences or bone metastasis. Chemotherapy and hormone therapy have not been established, even for high grade tumours[1,6].

Local recurrence rates for phyllodes tumours are 15 to 20%[5]. The feature most closely related to local recurrence, more than histological type and grade, is the presence of tumour at the surgical margins[5]. In both the cases, patients underwent several surgical procedures for local recurrences, probably due to inadequate surgical margins. Both cases required mastectomy to reduce the chance of recurrence, still then they developed recurrences. Emphasis to be given on extirpation of all visible tumour and breast tissue, as recurrence is unlikely after a complete clearance.

Full thickness chest wall resection and reconstruction, as a palliative or curative treatment for phyllodes tumour, is an aggressive approach reported rarely in the literature, and appears to have been successful in the reported two cases. Chest wall invasion is an uncommon event. Reinfuss et al reported 2.4% pectoralis major invasion[7]. Moore and Kinne recommend extended excision of involved pectoralis major muscle, follwed by chest wall reconstruction with Marlex mesh and methylmethacrylate. Among the reported cases, one case showed only pectoralis major invasion, no deeper invasion, managed by pectoralis major excision and LD-reconstruction. The other case required rib excision, in addition.

Conclusion:

The principle for the treatment of phyllodes tumour, benign or malignant, is to perform an extended excision of tumour and adjacent tissues to ensure tumour free surgical margin, which might even require mastectomy. Management of recurrent phyllodes tumour, especially post-mastectomy, poses a challenge of reconstruction to the surgeons. Review of the limited number of available literatures and the treatment outcome of the reported two cases emphasize on full-thickness chest wall resection and reconstruction as the preferred management option for recurrent phyllodes tumour.

Reference:

1. Guerrero MA, Ballard BR, Grau AM. Malignant phyllodes tumor of the breast: review of the literature and case report of stoma overgrowth. Surg Oncol 2003; 12:27-37.
2. Mangi A, Smith B, Gadd M, et al. Surgical management of phyllodes tumours. Arch Surg 1999; 134:487-491.
3. Jose D. Andrade Neto, Ricardo M. Terra, Angelo Fernandez, et al. Full- thickness chest wall resection for recurrent brest phyllodes tumor. Ann Thorac Surg 2007; 83: 2196-2197.
4. Lenhard MS, Kahlert S, Himsl I, et al. Phyllodes tumour of the breast: clinical follow-up of 33 cases of this rare disease. Eur J Obstet Gynecol Reprod Biol. 2008 Jun; 138(2):217-21.
5. Margaret I L, Bhuvaneswari R, Cynthia C, et al. Giant breast tumors: Surgical management of phyllodes tumors, potential for reconstructive surgery and review of literature. World Journal of Surgical Oncology 2008. 6:117.
6. Soumarova R, SeneKlova Z, Horov H, et al. Retrospective analysis of 25 women with malignant cystosarcoma phyllodes- treatment results. Arch Gynecol Obstet 2004; 269: 278-281.
7. Reinfuss M, Mitus J, Duda K, Stelmach A, Rys J, Smolak K. The treatment and prognosis of patients with phyllodes tumor of the breast: an analysis of 170 cases. Cancer 1996, 77: 910-16.