Surgical Treatment of Giant Recurrent Breast Phyllodes Tumor

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Summary: In this study, a recurrent massive phyllodes tumor of the breast was surgically removed and the grafting was used to repair the local skin defects. A 29-y female patient had recurring breast phyllodes tumor of extremely large size in the chest wall after the excision of a previous tumor. The massive phyllodes tumor was eliminated by completely removing the layers of the skin and tissues above the costal bones with incisal margin being 2 cm away from the tumor lesion. The latissimus dorsi myocutaneous flap, lateral thoracic skin flap, and rectus abdominis myocutaneous flap were grafted to replace the lost tissues due to the surgery. Anti-infection and anticoagulation treatments were used after the surgery. The graft flaps had sufficient blood supply and good blood circulation, and the incisions mostly healed. The outcome of the surgery was acceptable. For the surgical treatment of the massive phyllodes tumor in the chest wall, it is an alternative of choice to use latissimus dorsi myocutaneous flap, lateral thoracic skin flap and rectus abdominis myocutaneous flap in combination for skin grafting.

Key words: phyllodes tumor; combination use of flaps; surgery

Breast phyllodes tumor (cystosarcoma phyllodes) is a rare space-occupying lesion of breast. It accounts for 0.3–0.5% of all breast tumors in females. Its biological features vary greatly with different individuals and its manifestations range from fibroadenomas-like changes to those of typical sarcomas. The disease also has a high rate recurrence but seldom involves metastasis [1, 2]. The principle for the treatment of the tumor, benign or malignant, is to perform an extended excision of tumor and adjacent tissues to ensure tumor-free surgical margins [3, 4]. With the surgical removal of recurring tumor in the chest wall, the resultant tissue defects are usually repaired by skin flaps after mastectomy. For extensive surgical resection of the tumor, primary repair of the incision is very difficult. In this study, we presented a technique of grafting with latissimus dorsi myocutaneous flap, lateral thoracic skin flap, and rectus abdominis myocutaneous flap in combination to repair the extensive tissue defects resulting from removal of a massive tumor.

1 MATERIALS AND METHODS

1.1 Clinical Data

1.1.1 Basic Information The patient, a 29-y old female, presented with a mass on her right breast in May 2001. The mass was surgically removed in a local hospital, and a biopsy revealed that it was fibroadenoma. In May 2002, the mass recurred and was resected again and biopsy specimen was reported as fibroadenoma. In October 2003, the mass recurred and was again surgically removed. The biopsy showed that the tumor was a fibroadenoma. In 2004, the right breast mass recurred, and grew slowly. But no treatments were given this time. In June 2005, after the patient got pregnant, the mass started to grow rapidly and was accompanied by distending pain. Because the patient was pregnant, surgery was not performed. In March 2006, she gave birth to a female baby. After the birthing, the patient felt the mass was shrinking. In September 2006, she received the fourth surgery, which was a simple mastectomy of the right breast. After consultation, the postoperative pathological examination indicated that the lesion was “malignant breast phyllodes tumor”. Three weeks after the surgery, the tumor recurred in the right chest wall and grew rapidly. During November and December of 2006, she was given 4-time chemotherapies consisting of ifosfamide plus adriamycin in a Beijing hospital. After each chemotherapeutic session, the tumor shrank to some extent. But in the interim of the chemotherapy, the tumor still grew very rapidly. Furthermore, pains in right chest wall and tumor ulcer also appeared in the process.

1.1.2 Physical Examination at Admission Body temperature was 38.5°C; pulse 90 beats/min, respiration rate 20 breaths/min and blood pressure 16.0/10.0 kPa (120/75 mmHg). The patient had normal development; neutral nutrition condition; giant tumor in the right chest wall of 36 cm×28 cm in size, located inferior to the upper border of the clavicle, on the lower border medial to the costal margin, lateral to the left margin of the breast bone, and medial to the posterior axillary line. The surface of the affected skin is red, swollen with increased tension and ulcerations.

1.1.3 Auxiliary Examinations Blood test: WBC 10.28×10⁹/L, N 90%, Hb 10.5 g/dL. Liver and renal functions were normal. Chest X-ray film examination, EKG, and B-mode ultrasound examinations on liver, gall-bladder, pancreas, spleen and kidney all yielded...
normal results. CT of the chest showed a massive tumor in the right chest wall, which did not intrude into the thoracic cavity (fig. 1).

1.2 Surgical Techniques

1.2.1 Anesthesia and Body Posture The patient underwent general anesthesia by tracheal intubation and intravenous injection. She was placed in a semi-lateral position, with the affected side upward (fig. 2). The body position of the patient was changed according to the regions (back, chest and abdominal) operated on.

1.2.2 Excision Scope and Design of the Flap The excision scope was determined based on the size of the tumor. In order to achieve the negative surgical margin, the incision margin was 2 cm away from the tumor external border (fig. 2). The upper border of the incision was at the level of the clavicle, and the lower border at level of the costal margin, the left border went along the left lateral margin of the chest bone and the right border along the posterior axillary line. Full-thickness resection from skin to ribs was performed.

Fig. 1 CT of the chest showed a massive tumor in the right chest wall, with its upper border reaching the clavicle, the lower border being at costal margin, the left border arriving at left lateral margin of the breast bone, the right border at posterior axillary line. The tumor did not intrude into the thoracic cavity.

Fig. 2 The massive tumor reoccurred in right chest wall after the resection of the breast phyllodes tumor with a size of 36 cm × 28 cm. The surface of the skin of the tumor was red, swollen with high tension and also had partial ulceration. The patient underwent general anesthesia via tracheal intubation and intravenous injection. She was placed in a semi-lateral position; with the affected side upward. In order to achieve the negative margin, the incisal margin was 2 cm away from the external border of the tumor.

For the design of the flap, the thoracodorsal vessel was used as the pedicle of the proximal end and the inferior epigastric vessel was chosen as the pedicle of the distal end. The line between the initial parts of the two blood vessels was taken as the axial line of the flap, which measured approximately 70 cm × 30 cm (including lateral chest).

1.2.3 Excision of the Tumor According to the pre-drawn excision line, the skin and subcutaneous tissues were incised. Then the insertion of the pectoralis