

## E5. Management of local relapse in breast cancer

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### Introduction

Local recurrence of breast cancer is defined as the reappearance of an original tumour within the soft tissues of the ipsilateral anterior chest – that is, in the skin, residual breast tissue, subcutaneous tissue or underlying muscles [1]. Recurrent breast cancer may represent various clinical situations, from a small operable lump to a large, debilitating soft tissue infiltration (*cancer en cuirasse*). Local breast cancer recurrence is always a dismal turning point in the course of disease and a vexing clinical and psychological problem. Treatment of local recurrence aims at preventing further uncontrolled progression and secondary dissemination. Therapeutic strategies depend mainly on disease location, extension and previous therapy.

### Recurrence after mastectomy

The incidence of local failures within 5 years after modified radical mastectomy is in the range 5–30%, depending mainly on the number of metastatic axillary lymph nodes and the size of the primary tumour [2–4]. Approximately 90% of chest wall recurrences occur within the first 5 years after primary treatment. Local recurrence after mastectomy is an ominous event, frequently accompanied by or followed by systemic failure. Therefore, restaging evaluation to rule out other tumour locations is essential.

Wide excision should be performed in all patients with isolated local relapse. Axillary excision in patients with clinically negative axilla is not required. Patients who had not been previously administered radiotherapy should receive irradiation to the ipsilateral chest wall. Radiotherapy limited to the involved area is not recommended due to the high risk of subsequent recurrence [5]. The treatment fields should also include ipsilateral supraclavicular fossa [2,5,6]. Radiotherapy to the axillary and parasternal lymph nodes is not warranted in the absence of their involvement. Doses applied following complete tumour excision are in the range of 50 Gy [5]. Patients with isolated inoperable relapse should receive definitive radiotherapy [50 Gy] to the entire ipsilateral chest wall, followed by a 10–20 Gy boost to the involved area. Chest wall relapse in patients who had previously undergone postoperative radiotherapy is a rare event but it poses a therapeutic challenge. Due to the

increased risk of severe complications following another full course of irradiation, treatment volume is usually limited to the involved region. An effective approach to decrease radiation damage is low-dose radiotherapy combined with hyperthermia [7–9]. This method is not commonly used however, mainly due to its demanding technique, logistical difficulties, lengthy treatment time and reimbursement issues. Another promising method allowing satisfactory local control and relatively mild toxicity is pulsed-dose rate (PDR) brachytherapy [10].

The management of local recurrences following breast reconstruction includes local excision and radiotherapy. However, these patients require more complex surgical and radiotherapeutic techniques [11–14]. Irradiation of patients with breast implants carries an increased risk of capsular contracture [12], therefore a common practice is the removal of an implant together with the excision of local recurrence. Radiotherapy following autologous breast reconstruction is associated with a relatively high risk of flap atrophy due to microvasculature damage.

Patients with receptor-positive tumours should be administered hormonal agents in addition to local therapy [15]. Nowadays, most patients with endocrine-sensitive breast cancer receive adjuvant hormonal therapy, therefore treatment at relapse will usually include a second-line agent. The role of chemotherapy adjunctive to local treatment remains undefined. This issue was addressed in a prematurely closed randomised study (EORTC 10920) and is currently being investigated in another trial (IBCSG 27-02). Endocrine treatment, chemotherapy or a combination thereof are routinely used in patients with recurrent tumours not amenable to local treatment.

### Relapse after breast-conserving therapy

In patients undergoing breast conserving therapy (BCT), the cumulative risk of recurrence in the residual breast tissue increases continuously over several years at an average annual rate of around 1–2%. Breast relapses are typically located adjacent to the site of the primary tumour (true recurrence or marginal miss). Less common is skin recurrence. Incomplete excision, young age, high nuclear tumour grade and extensive intraductal component increase the risk of relapse. Breast irradiation, being an integral part of BCT, reduces the risk of

failure four-fold. Most local recurrences are detected by mammography.

Patients with isolated local recurrence following BCT should always be managed with curative intent. The treatment of choice is salvage mastectomy. A second attempt at breast conservation by local excision is practised only occasionally owing to substantial risk of subsequent recurrence [16]. Re-irradiation of the breast is generally not performed. Several studies have suggested that salvage rate in patients with operable breast recurrence is substantially higher than in patients with chest wall relapse [17–19]. However, BCT is generally employed in less advanced disease. The short time to the development of local recurrence and skin involvement impair survival.

## References

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