

Breast Surgery

Research Activities

Serum ErbB-2 monitoring

The utility of examining serum and cytosol ErbB-2 protein in breast cancer patients has been reported. A long-term follow-up of 86 patients operated on between 1996 and 1998 demonstrated that serum ErbB-2 is an independent prognostic marker and may be useful for monitoring breast cancer recurrence.

A clinical trial of RFA followed by partial mastectomy is ongoing for T1N0 breast cancer patients without EIC to establish surgical techniques for RFA and to evaluate safety procedures. A preliminary result from vital staining of ablated specimens suggests that thermal ablation was successful in 88% of 14 cases.

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Sentinel Node Biopsy

Between 1999 and 2006, 890 cases were treated with SNB alone without axillary lymph node dissection (ALND). This year, we explored positive predictive factors for non-sentinel lymph nodes (SNs) in SN-positive patients and the clinical significance of isolated tumor cells (ITCs) in SNs. From these results, a primary tumor more than 2.0 cm in diameter, presence of lymphatic invasion, macrometastasis in SNs and a 100% metastatic rate in the SN (number of positive SN/ number of harvested SNs) were significantly associated with positive non-SN (1). In addition, a retrospective immunohistochemical analysis revealed that breast cancer patients with ITC-positive SNs should be clinically managed as node-negative patients (2). These findings are useful for determining the need for additional ALND.

Radiofrequency Ablation Therapy

Breast cancer often spreads extensively into the mammary ducts, generating what are called extensive intraductal components (EICs). However, breast cancer without EICs may be managed by ablation therapy rather than surgical resection. Radiofrequency ablation (RFA) is a promising alternative surgical technique to partial mastectomy.