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An Audit on the Role of Sentinel Node Biopsy in High-Risk Ductal Carcinoma in Situ and Intracystic Papillary Carcinoma

Authors : M. Sulieman, H. Arabiyat, H. Ali, K. Potiszil, I. Abbas, R. English, P. King, I. Brown, P. Drew

Abstract : Introduction: The incidence of breast ductal Carcinoma in Situ (DCIS) has been increasing; it currently represents up 20-25% of all breast carcinomas. Some aspects of DCIS management are still controversial, mainly due to the heterogeneity of its clinical presentation and of its biological and pathological characteristics. In DCIS, histological diagnosis obtained preoperatively, carries the risk of sampling error if the presence of invasive cancer is subsequently diagnosed. The mammographic extent over than 4–5 cm and the presence of architectural distortion, focal asymmetric density or mass on mammography are proven important risk factors of preoperative histological under staging. Intracystic papillary cancer (IPC) is a rare form of breast carcinoma. Despite being previously compared to DCIS it has been shown to present histologically with invasion of the basement membrane and even metastasis. SLNB – Carries the risk of associated comorbidity that should be considered when planning surgery for DCIS and IPC. Objectives: The aim of this Audit was to better define a 'high risk' group of patients with pre-op diagnosis of non-invasive cancer undergoing breast conserving surgery, who would benefit from sentinel node biopsy. Method: Retrospective data collection of all patients with ductal carcinoma in situ over 5 years. 636 patients identified, and after exclusion criteria applied: 394 patients were included. High risk defined as: Extensive micro-calcification >40mm OR any mass forming DCIS. IPC: Winpath search from for the term 'papillary carcinoma' in any breast specimen for 5 years duration;.29 patients were included in this group. Results: DCIS: 188 deemed high risk due to >40mm calcification or a mass forming (radiological or palpable) 61% of those had a mastectomy and 32% BCS. Overall, in that high-risk group - the number with invasive disease was 38%. Of those high-risk DCIS pts 85% had a SLN - 80% at the time of surgery and 5% at a second operation. For the BCS patients - 42% had SLN at time of surgery and 13% (8 patients) at a second operation. 15 (7.9%) pts in the high-risk group had a positive SLNB, 11 having a mastectomy and 4 having BCS. IPC: The provisional diagnosis of encysted papillary carcinoma is upgraded to an invasive carcinoma on final histology in around a third of cases. This has may have implications when deciding whether to offer sentinel node removal at the time of therapeutic surgery. Conclusions: We have defined a 'high risk' group of pts with pre-op diagnosis of non-invasive cancer undergoing BCS, who would benefit from SLNB at the time of the surgery. In patients with high-risk features; the risk of invasive disease is up to 40% but the risk of nodal involvement is approximately 8%. The risk of morbidity from SLN is up to about 5% especially the risk of lymphedema.

Keywords : breast ductal carcinoma in Situ (DCIS), intracystic papillary carcinoma (IPC), sentinel node biopsy (SLNB), high-risk, non-invasive, cancer disease
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