Incomplete Sentinel Node Biopsy Is Not Clearly Related To Survival Or Regional Recurrence In Cutaneous Melanoma Patients

Nicholas C Lee, MBBS; Andrew J Spillane, MD; Tony Pang, MBBS; Lauren E Haydu, BSCHE, MIPH; Roger F Uren, MD

Abstract

Aim: In melanoma patients, we define incomplete sentinel node biopsy (I-SNB) as when fewer lymph nodes are removed during sentinel node biopsy (SNB) than identified on preoperative lymphoscintigraphy (LS). This study quantifies the frequency of I-SNB and evaluates any correlation with patient outcomes.

Methods: Evaluation of a prospective database of consecutive patients having LS and negative SNB from 1996 to 2006. Additional LS information was obtained from a nuclear medicine database. All statistical analyses were performed using the IBM SPSS Statistic 19.0 software package.

Experience: Mean follow up was 54.9 months after SNB, with 103 patients lost to follow up. Sporadic missing data in the MIA database accounted for less than 5% for any characteristic.

Results: I-SNB occurred in 20% of the cohort (n=2007). For axillary (n=895), groin (n=569) and neck/axial patients (n=334) I-SNB occurred in 12%, 26% and 28% of cases respectively ($p<0.001$). On univariate analysis, there was a significant association between I-SNB and worse disease-free survival (DFS), $p=0.007$ (Figure 1) and trend towards worse melanoma-specific survival (MSS), $p=0.056$. I-SNB was not associated with worse regional recurrence-free survival (RRFS), $p=0.144$. There was no relationship between I-SNB and worse DFS, RRFS or MSS on multivariate analysis. Sentinel node region (axilla better than groin and neck/axial) had a significant association with RRFS ($p=0.039$) on univariate analysis and DFS on univariate ($p=0.009$, Figure 2) and multivariate analysis. Significantly worse outcomes for MSS, DFS and RRFS were seen with male gender, increasing age, high mitotic count, ulceration, and increasing Breslow thickness.

Figure 1. Disease-free survival by SNB completeness

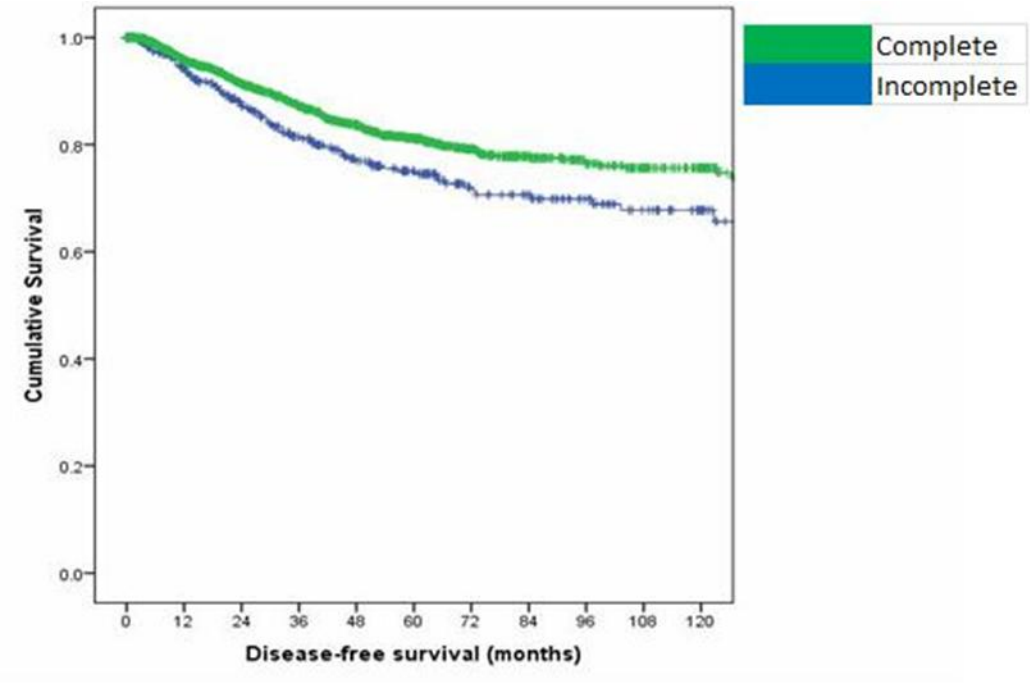
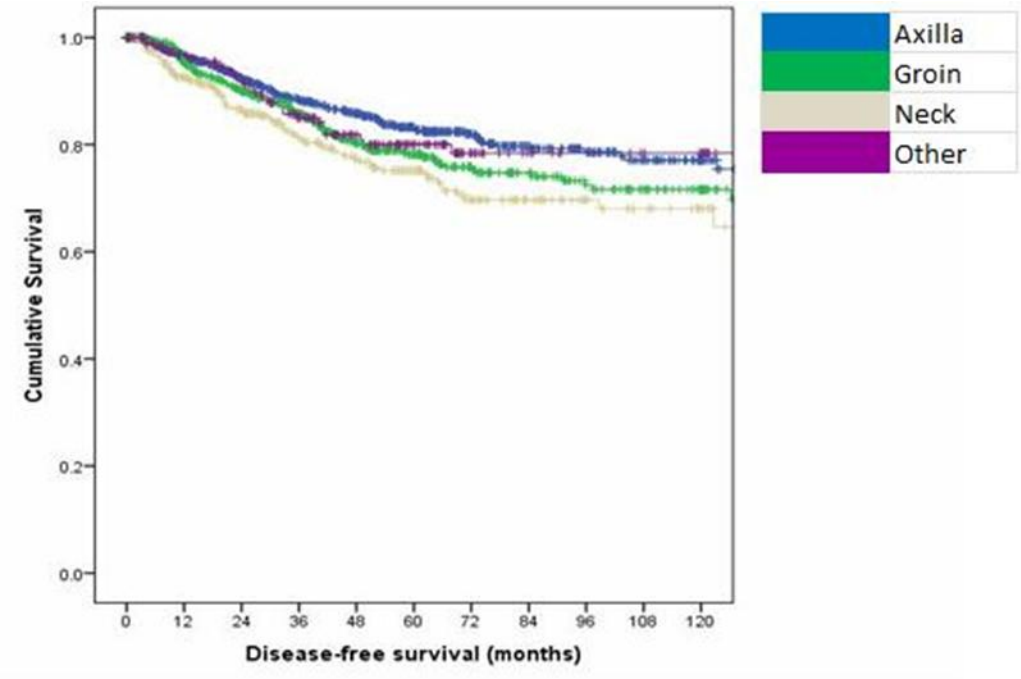


Figure 2. Disease-free survival by SNB field



Conclusion: This study demonstrates no statistically significant relationship between I-SNB and patient outcomes when adjusting for known prognostic factors. These data do not exclude the possibility that I-SNB may have a weak association with worse outcomes.

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