

Sentinel lymph node biopsy plus wide local excision vs. wide location excision alone for primary cutaneous melanoma: a systematic review and meta-analysis

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Background: Sentinel lymph node biopsy and wide local excision of the primary melanoma (SLNB) is now a standard staging procedure for patients with melanomas 1 mm or more in thickness, but its therapeutic benefit is not clear. **Objective:** To determine whether there is an association between performance of SLNB and patient prognosis. **Methods:** Studies assessing the association between performance of SLNB and patient prognosis were pooled from MEDLINE, EMBASE, PubMed, Cochrane Database of Systematic Reviews and Google Scholar. From each study, first author's last name, publication year, origin country, type of study design, characteristics of participants and the Hazard risk (HR) for melanoma specific survival (MSS) with the corresponding 95% confidence interval (95% CI) were collected. Methodological assessment of the studies was evaluated using the Newcastle-Ottawa scale (NOS) and the 'Risk of bias' tool detailed in the Cochrane Handbook for Systematic Reviews of Interventions. Meta-analyses for the global HR were performed. In addition, in order to explore the sources of heterogeneity among the studies, sensitivity analyses are also provided. **Results:** A total of six studies with 8764 patients who had undergone SLNB and 11054 patients who had undergone wide location excision alone (WLEA) were identified for the analysis. The indicators suggest that the heterogeneity is low: $\tau^2 = 0$; $I^2 = 0\%$ [0%; 66.5%]. Evidence for publication bias was not found (Egger's test $P = 0.4654$). The pooled MSS HR from fixed effects analysis was determined to be 0.88 (95% CI = 0.80-0.96). **Conclusions:** Although no significant survival difference was observed in four of the six series, the pooling summary data from all the studies that deal with this issue suggested that SLNB is associated with a significantly better

outcome compared with WLEA for localized melanoma. © 2016 European Academy of Dermatology and Venereology