Project Title: Validation of a nomogram predicting sentinel lymph node status in cutaneous melanoma in an Australian population

Code: CCS2

Host School/ Institute: Central Clinical School
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Project Type: Data and Analysis; Design; Literature Review

Project Category: Cancer; Surgery; Epidemiology

Skills/ Attributes of a successful student
Candidate is expected to have a solid statistical or mathematical background and an interest in health research.

Project Keywords: Sentinel lymph node biopsy; Nomogram; Melanoma; Predictive value of tests

Project Description:
Sentinel lymph node (SLN) biopsy has become the standard procedure to identify the directly draining lymph node(s) from the primary melanoma site. Numerous large retrospective database studies and prospective clinical trials have demonstrated that SLN status is the most powerful independent prognostic factor for cutaneous melanoma patients.1 However, in current clinical practice, only 15–20% of patients are found to have a positive SLN after biopsy. Consequently, there is a need to reduce the high rate of negative biopsies through better selection of patients for SLN biopsy.2 Tools to achieve this have been developed, with the most popular being that from Memorial Sloan Kettering Cancer Centre (MSKCC). The MSKCC nomogram has been validated for use in four case series, one American and three European and found to provide great accuracy.2-5 However, the accuracy of the nomogram in the Australian melanoma population has not yet been established.

This summer project aims to determine whether the MSKCC nomogram would be of clinical use in an Australian population. The analysis will use the prospective Melanoma Research Database at the Melanoma Institute Australia to determine the accuracy of the MSKCC nomogram in predicting the SLN status of those patients who underwent SLN biopsy. The summer student is expected to perform data cleaning/derivation tasks and run some logistic regression models. In exchange he/she will be supervised by a multidisciplinary team including biostatisticians, pathologists, cancer geneticists and surgeons. He/she will learn many useful and transferrable research skills including information management, study design and administration, and report drafting. The student will also develop skills in preparing a manuscript for publication in a peer-reviewed journal. The successful applicant who contributes well will be rewarded with co-authorship on any resulting publications. Additionally, there may be opportunities to develop and extend this topic area into further projects suitable for honours or MPhil work. Preference will be given to applicants who contact the supervisors to discuss the role in advance.

References: