Single-center, single-operator, retrospective analysis of base transection rates in shave procedures for melanoma diagnosis

To the Editor: Melanoma should be diagnosed by complete excision rather than sampling. Despite not increasing the risk of local recurrence or metastasis,[1] shave excision is controversial, as studies show high rates of base transection even in superficial (34% of >0.5 mm) melanomas.[2] These studies lack data on the level of training of the practitioners involved. Clinician intent to fully excise or merely sample is often unknown.

Shave excision is a quick, simple, low-cost procedure requiring minimal equipment. As it is often a same-day procedure it eliminates compliance issues. There is no need for a return visit for suture removal. It has acceptable-to-good functional and cosmetic outcomes.[3]

In our experience, given good lesion selection and technique base transection is rare when intending to fully shave excise a suspect lesion.

We completed a retrospective audit of all melanomas diagnosed by a single practitioner from 2012 to 2019. These data were correlated with the medical record including photos to determine intent. Follow-up wide local excisions were also collected to determine the number of subsequently upgraded Breslow thickness lesions, with the results listed in Table I. Shave excision was defined as a shave procedure in which the clinician's intent was to remove the lesion in width and depth. Shave biopsy was a procedure in which clinician intent was merely to sample.

Of the 12 base transections, only one occurred in which clinician intent was to excise, shown in Table II. In retrospect, this lesion was unsuitable for the procedure, as it arose on hair-bearing scalp, was raised, and had dermoscopic features of deep invasion. The other base transections occurred when only partial sampling was performed. Five lesions were classified as having a base transection despite being noninvasive, as histology reported melanoma "abuts" or "touches" or involved one part of the base. Lesions in which partial biopsy only was performed were clinically unsuspected to be melanoma, too large to excise, or were on cosmetically or functionally important sites, and melanoma was not a primary diagnosis. The use of shave excision technique had a base transection rate of 0.5%.

A total of 3.9% of the melanomas diagnosed were unsuspected by the practitioner. Similarly, Chia et al[4] found that 4.2% of the melanomas they diagnosed were clinically unsuspected. It is possible that a lower threshold for use of shave excision leads to earlier diagnosis of this subset of melanomas.

All procedures were performed at the same visit the lesion was found and billed as biopsies. If formally excised, costs would have increased by 440% in the Australian health care system. These time and financial savings are further amplified when one considers that reported number-needed-to-diagnose ratios range from a low of 6 to a high of 22.[5]

Our data shows that for lesions not displaying clear evidence of deeper invasion (blue grey veil, ulceration, nodularity), large size (>1 cm), or not amenable to a deep shave (not facial) the rate of base transection in appropriate lesions is extremely low. Shave excision is a safe, economical, and first-line approach for lower risk lesions.

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Table I. Biopsy and excision results

Initial biopsy type	Number of melanomas	Noninvasive	Invasive	Base transections	% Base transections	Wide local excision upgrades
Shave excision	190	161	29	1	0.5	0
Shave biopsy (partial sampling)	11	5	6	11	100	4
Formal excision	24	14	10	0	0	0
Punch procedure	1	1	0	0	0	0
Totals	226	181	45	12		4

Table II. Base transection subanalysis

Base transection factor and number of cases	Number	Location, clinical scenario	Invasive on initial biopsy?	Upgrade on wide local excision?	Operator intent
Partial biopsy of large lesion	3	Chest	Yes	No	Partial
		Neck (1) - IEC intermixed	Yes	No	Partial
		Arm	No	yes	Partial
Biopsy only intent — superficial shave performed, not intending to achieve deeper excision	8	Arm (amelanotic)	Yes	yes	Partial
		Neck (2) (amelanotic)	No	yes	Partial
		Shoulder (amelanotic)	Yes	No	Partial
		Leg	Yes	No	Partial
		Nose	No	No	Partial
		Cheek	Yes	No	Partial
		Infraorbital	No	No	Partial
		Jaw	No	Yes	Partial
Insufficient depth of intended shave excision	1	Scalp	Yes	No	Complete excision

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REFERENCES

1. von Schuckmann LA, Khosrotehrani K, Hughes MCB, et al. Prognostic implications of biopsy with tumor transection for patients with high-risk primary melanoma. *J Am Acad Dermatol*. 2020;82(6):1521-1524.
2. Menezes SL, Kelly JW, Wolfe R, et al. The increasing use of shave biopsy for diagnosing invasive melanoma in Australia. *Med J Aust*. 2019;211(5):213-218.
3. Ferrandiz L, Moreno-Ramirez D, Camacho FM. Shave excision of common acquired melanocytic nevi: cosmetic outcome, recurrences, and complications. *Dermatol Surg*. 2005;31(9 Pt 1):1112-1115.
4. Chia ALK, Simonova G, Dutta B, Lim A, Shumack S. Melanoma diagnosis: Australian dermatologists' number needed to treat. *Australas J Dermatol*. 2008;49(1):12-15.
5. Petty A, Ackerson B, Garza R. Meta-analysis of number needed to treat for diagnosis of melanoma by clinical setting. *J Amer Acad Dermatol*. 2020;82(5):1158-1165.

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Age and sex differences for malignant melanoma in the pediatric population—childhood versus adolescence: analysis of current nationwide data from the National Cancer Institute Surveillance, Epidemiology, and End Results (SEER) program

To the Editor: Continuing efforts are warranted to better understand malignant melanoma (MM) in children and adolescent populations. The aim of this study was to report overall pediatric MM trends and differences when stratified by age and sex for both children and adolescents.

The SEER database (2000-2015) was used to extract data for patients 0 to 19 years with a diagnosis of MM (International Classification of Childhood Cancer codes: 8720-8780, 8790). Only cases with known age and malignant behavior (excluding in situ cases) were selected for analysis. Data were then stratified by age (children: 0 to 9 years and adolescents: 10 to 19 years) and by sex male/female. Incidence rates (IRs), IR trends (as annual percentage change [APC]), and 5-year cause-specific survival, were calculated. SEER*Stat software[1] was used for data extraction and analyses.

Of 1,891 pediatric MM patients, 236 (12%) were children, 1,655 (88%) were adolescents; 1,088 (57.5%) were female (children: 12.6%; adolescents: 87.4%); and 803 (42.5%) were male (children: 12.3%; adolescents: 87.7%).

Overall, the age-adjusted IR was 5.0 (95% confidence interval [CI], 4.8-5.2) per million persons (IR, 1.3 for children and 8.6 per million for adolescents). Stratified by sex, females had a significantly higher IR than males for both populations (children, 1.5 vs 1.1; adolescents: 10.1 vs 7.1; $P < .05$). Although pediatric MM, overall, had a decreasing IR trend (APC, −3.7%; 95% CI, −5.3, −2.0), the IR trend was significantly decreased for adolescents (APC, −4.4%; 95% CI, −5.9, −2.8), but not for children.

Five-year survival rate was not significantly different between children and adolescents (93.9% vs 95.3%, respectively). When stratified by sex, the 5-year survival rate for adolescents was significantly higher for females than males 97.0% (95% CI, 95.5%-98.0%) and 92.9% (95% CI, 90.4%-94.7%), respectively. No significant difference by sex was detected for children (92.4% for males and 95.0% for females).