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Melanocytic lesions excised from the skin: what percentage are malignant?

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Abstract: We estimated the diagnostic skill of clinicians managing melanocytic skin naevi by measuring the percentage of malignant melanomas, premalignant and potentially malignant naevi, in 1896 excised melanocytic lesions submitted to a pathology service over 11 weeks. They comprised 8 per cent. The percentage increased with age: 4 per cent in the under-40s, 17 per cent in those aged 40-59, and 30 per cent in those over 60, ($P < 0.001$, sex-adjusted). Although the percentage was twice as high in males (11 per cent) as females (6 per cent), after adjustment for age the difference was not significant. Invasive melanomas, 3 per cent of the total, were similar: 1 per cent were from under-40s; 7 per cent from those aged 40-59 years; and 14 per cent from those over 60. They comprised 4 per cent of lesions from males and 2 per cent from females. These trends may indicate poor specificity of clinical diagnosis, notwithstanding other reasons for removal of naevi (cosmetic), particularly among patients under 40, and females. (*Aust J Public Health* 1994; 18: 221-3)

Failure to remove a malignant melanoma from the skin of a patient is of great concern to the clinician. Because early melanoma (for example, a lesion less than 0.76mm in thickness), is cured by simple excision while advanced lesions are usually fatal, early diagnosis is crucial.¹ It might be thought that melanoma is relatively easy to diagnose: the skin is accessible to direct observation, and the tumour is

nearly always distinguished by black melanin. However, early clinical diagnosis is difficult for two reasons: early melanomas are very similar morphologically to benign melanocytic naevi, and benign naevi are ubiquitous. Other lesions, such as pigmented basal cell carcinomas and seborrhoeic keratoses, may occasionally be confused with melanomas, although they can usually be distinguished clinically from melanomas.^{1,2} The main diagnostic challenge is to distinguish the common melanocytic naevus from the uncommon early melanoma.

There are little data on the reasons for excising naevi. However, if the main indications are to exclude malignancy, or to establish if a patient has dysplastic naevi to determine the patient's risk category for future management, rather than because of irritation or for cosmetic problems, then the percentage of naevi excised found histologically to be malignant melanomas, premalignant naevi, or potentially malignant naevi becomes a crude proxy of diagnostic skill. An analysis of 1277 melanocytic lesions in New South Wales in 1987 estimated the proportion to be 6 per cent.³ Because there are no comparable data available for Queensland, and a dramatic increase in melanoma has been described recently in Queensland,⁴ we sought this percentage among a large number of melanocytic skin lesions in a series of melanocytic lesions submitted to one pathology laboratory in Queensland.

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Methods

Histological reports of every melanocytic skin lesion diagnosed in a single private pathology laboratory in Queensland were collected during one 11-week period. The laboratory provides histological reporting for about one-quarter of the state's melanomas, calculated on the basis of annual totals registered in Queensland.⁵ Each patient's sex and date of birth were recorded. Differences between the distributions of benign, premalignant and preinvasive, and malignant lesions (defined in Table 1) among patient groups, were tested for significance using the chi-square test and confidence intervals, after adjusting for age and sex.

Results

Complete information was available for 99 per cent of the 1 896 reports of excised melanocytic lesions (Table 1). Most, (1 499, 78 per cent), were excised from patients under the age of 40 years. Potentially malignant, premalignant and malignant lesions together comprised 8 per cent of all melanocytic lesions. The proportion increased markedly with age: 4 per cent in the under-40s, 17 per cent in the age range 40 to 59, and 30 per cent in those older than 60, (Figure 1). This trend was significant ($\chi^2 = 31.8$, $P < 0.001$, sex-adjusted). The proportion for males (11 per cent) was twice that for females, (6 per cent), a difference that was not significant when adjusted for age ($\chi^2 = 2.45$, $P = 0.118$).

The trends for invasive melanoma (3 per cent of the total) were similar. The percentage of invasive melanomas rose from only 1 per cent of the lesions submitted from patients younger than 40, to 7 per cent for those aged 40 to 59 years and 14 per cent for those aged 60 and over. It was 4 per cent for males compared to 2 per cent for females.

A check of the representativeness of the 11-week period was undertaken by comparing its rate of histologically confirmed melanomas with the annual total; it was not significantly different ($P = 0.25$).

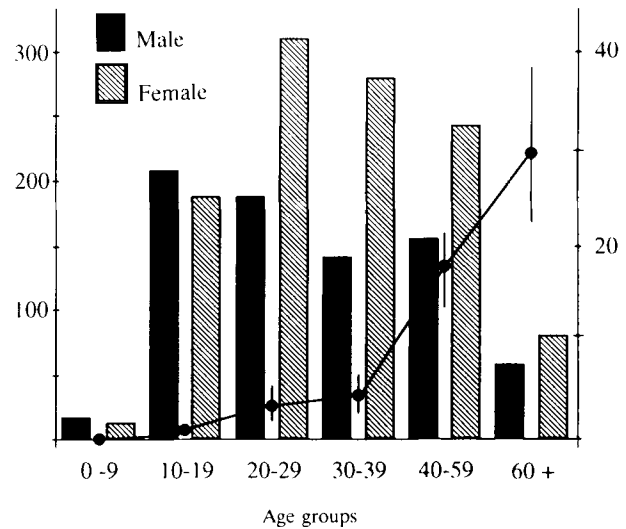


Figure 1: Numbers of melanocytic excisions, and percentage malignant, by age and sex. The columns show the numbers of melanocytic lesions removed and the line shows the percentage potentially malignant, premalignant or malignant, with 95 per cent confidence intervals.

Discussion

We have used a very crude measure of diagnostic skill. Other lesions not included (for example seborrhoeic keratoses) may be more important in older patients. Young women, for example, may be more likely to have naevi removed for cosmetic reasons than old men. Pressure from patients to have clinicians remove their lesions may complicate excision patterns, particularly in this study's fee-for-service setting. However, our results are consistent with those from a study based on the New South Wales public medical service where questions of fee-for-service did not arise.³

What should be the percentage of naevi excised found histologically to be malignant melanomas, premalignant naevi, or potentially malignant naevi in

Table 1: Classification of excised melanocytic lesions according to histological diagnosis

| Age | Sex | Diagnostic group (n) | | | | | Total | Percentage of total | |
|--------------------|------|----------------------|---|----------------------------------|------------------------------|----------------------------------|-------|---------------------|--|
| | | Benign | | Malignant | | | | Invasive lesions | Invasive, pre-invasive and potentially malignant lesions |
| | | Naevi ^a | Potentially malignant Dysplastic naevi | Pre-invasive HMF ^b | Clarke's level I melanoma | Clarke's level II-IV melanoma | | | |
| 0 to 9 | M | 17 | 0 | 0 | 0 | 0 | 17 | 0 | 0 |
| | F | 13 | 0 | 0 | 0 | 0 | 13 | 0 | 0 |
| 10 to 19 | M | 207 | 1 | 0 | 0 | 0 | 208 | 0 | 0 |
| | F | 183 | 5 | 0 | 0 | 1 | 189 | 1 | 3 |
| 20 to 29 | M | 175 | 7 | 0 | 1 | 4 | 187 | 2 | 6 |
| | F | 303 | 5 | 0 | 0 | 1 | 309 | 0 | 2 |
| 30 to 39 | M | 133 | 4 | 0 | 1 | 3 | 141 | 2 | 6 |
| | F | 269 | 5 | 0 | 4 | 2 | 280 | 1 | 4 |
| 40 to 59 | M | 118 | 17 | 2 | 3 | 15 | 155 | 10 | 24 |
| | F | 210 | 12 | 2 | 4 | 13 | 241 | 5 | 13 |
| 60+ | M | 35 | 5 | 3 | 4 | 11 | 58 | 19 | 40 |
| | F | 62 | 0 | 8 | 2 | 8 | 80 | 10 | 23 |
| Total | M | 685 | 34 | 5 | 9 | 33 | 766 | 4 | 11 |
| | F | 1040 | 27 | 10 | 10 | 25 | 1112 | 2 | 6 |
| Unknown age or sex | | | | | | | 18 | 0 | 0 |
| Total | Both | 1725 | 61 | 15 | 19 | 58 | 1896 | 3 | 8 |

Notes: (a) Naevi = junctional, compound, blue, halo, Spitz and congenital naevi, lentigos, and freckles. (b) HMF = Hutchinson's melanotic freckle.

various patient subgroups? The percentages of patients with melanomas referred to dermatologists by general practitioners concerned about melanoma differ between countries: 0.2 per cent in Holland; 0.4 per cent in the United States; and 5 per cent in the United Kingdom. (In these countries general practitioners themselves take on excision less readily.)⁶ Otherwise, there is little in the literature to guide us in the formulation of a set of standards.

Benign naevi are very common. The mean number on Caucasians aged 20 to 29 lies between 15 and 40.⁷ The annual gross rate of melanoma for the same age group in Queensland is less than 0.04 per cent (40:100 000).⁴ If there is a mean lead time of at least one year before action is taken about melanomas, the chance of any unselected naevus being malignant would be less than about 0.002 per cent. This is much less than the equivalent 3 per cent in this study, and 5.6 per cent in the New South Wales study³, suggesting that patients and clinicians are quite discriminating in their ability to identify lesions that require removal.

The difference in rates among the subgroups is revealing. The incidence of melanoma is more common in males, and increases with age.⁴ If the rate of excisions varied similarly, the percentage of malignant-to-benign lesions would remain roughly

constant with age and sex. However, we have shown that it does not: it is very low among the young, and females, among whom the incidence of melanoma is low. Reasons other than to exclude malignancy (for example, cosmetic reasons) may have contributed to these differences a little. However, we venture that these results may suggest a lack of specificity in the clinical diagnosis of melanoma among myriad melanocytic naevi among the young and among females.

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Adults with acquired hearing loss: identification and referral patterns of community health workers

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Abstract: *Community health workers in one health region of New South Wales were surveyed about their criteria and referral patterns to identify and assist adults with acquired hearing losses. Reported or observed communication problems were the most commonly used criteria for identifying hearing loss, suggesting that a failure model was being utilised. Given that the literature has previously demonstrated reluctance on the part of individuals with acquired hearing loss to report their hearing difficulties, the implications of these results are discussed. Clients suspected of having acquired hearing losses were usually referred to their doctors for further investigation and treatment. Other hearing help services were not systematically utilised. Alternative strategies for identifying and managing acquired hearing loss at the community level are needed. (Aust J Public Health 1994; 18: 223-5)*

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Although the prevalence of hearing loss in Australia has been estimated at between 15 per cent and 19 per cent, it is still a largely underreported and undiagnosed health problem.^{1,2} Acquired hearing loss in adults is most commonly caused (apart from aging) by exposures to workplace noise.^{3,4} Noise-induced hearing loss is the most prevalent occupational disease in New South Wales.⁵

As community health services become involved in workplace health promotion and injury prevention programs,⁶ the role of community health workers in the identification and management of slow-onset injuries is becoming increasingly important. This study was a preliminary investigation into the management of acquired hearing loss by community health workers, particularly nurses involved in hearing screenings. The purposes of this study were to explore how community health workers identify