Diagnosing skin cancer in primary care: how do mainstream general practitioners compare with primary care skin cancer clinic doctors?

Clare Heal and Beverly Raasch

To the Editor: In a recent article, Youl and colleagues provided information about the ability of doctors to accurately diagnose skin lesions that they excise or biopsy.[1] We wish to offer some comments about their comparison between general practitioners and skin cancer clinic doctors.

First, in the study by Youl et al the behaviour of GPs and patients in mainstream practice was different from that of doctors and patients in skin cancer clinics, as indicated by the comparative frequency of whole body skin examinations performed (GPs, 30.4%; skin cancer clinic doctors, 73.2%).[1] The study did not indicate the circumstances under which each decision to excise took place. Did patients become aware of a new or changing skin lesion and bring it to the attention of the doctor, or did the diagnosis result from a whole body skin check that might have revealed an earlier, previously unnoticed and more subtle lesion? It may be useful to separate basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) into histological subtypes, as early superficial BCC and intraepidermal SCC may be more difficult to diagnose than other subtypes.[2]

Second, the casemix of non-melanotic skin cancers in the two groups of doctors was quite different, with a BCC : SCC ratio of 1.1 : 1 for GPs and 2.1 : 1 for skin cancer clinic doctors. The difference in casemix was reflected in a study of our own[3] in which we described the histology of 1247 lesions excised by doctors, including 76 lesions removed by one doctor in a designated skin cancer clinic. In an unpublished sub-analysis, we divided the results into two settings for comparison (Box). Like Youl et al, we found that the casemix of non-melanotic skin cancers was significantly different for the two groups of doctors ($P < 0.001$), but in our study the BCC : SCC ratio was much higher for skin cancer clinic doctors (4 : 1) than for GPs (0.6 : 1). We believe this most likely reflects an increased pick-up of BCC in skin cancer clinics, owing to the higher frequency of full body skin examinations and the consequent detection of lesions of which the patient is unaware.

Third, the reported sensitivity and specificity in the study by Youl et al refers only to excised lesions. There is no information given about the lesions that practitioners decided not to excise. The sensitivity and specificity of skin examinations can only be determined if all relevant skin lesions are assessed, thereby giving an accurate representation of the number of true- and false-negative diagnoses. However, this would require multiple excisions, which would be clinically unacceptable. An important limitation of the study is that it does not assess or compare how many skin cancers each group of doctors missed.

In conclusion, although the study by Youl et al provides comprehensive information about diagnostic accuracy, we do not feel — based on the information available — that a meaningful comparison between the two groups of doctors can be made.

Competing interests: Clare Heal manages skin cancer in both a mainstream general practice and a skin cancer clinic setting.

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Comparison of lesion excisions in skin cancer clinic and general practice settings

	Mean patient age (years)	Proportion of excised lesions that were malignant*	BCC : SCC ratio	Number needed to treat†
Skin cancer clinic	56.5	76% (58/76)	4 : 1 (44/11)	4.7 (14/3)
General practice	56.9	45% (512/1145)‡	0.6 : 1 (190/305)	9.0 (154/17)

BCC = basal cell carcinoma. SCC = squamous cell carcinoma. * BCC, SCC or melanoma. † Benign or dysplastic naevi excised per melanoma. ‡ There were 26 cases in which histology results were missing. All were in the general practice setting.

Jeffrey Keir

To the Editor: Youl and colleagues are to be commended for their research into the performance of special-interest skin cancer clinicians.[1] However, the conclusion that the performance of general practitioners and skin cancer doctors in the diagnosis of skin cancer is similar is highly questionable.

To truly compare the two groups and their diagnostic accuracy, it must be established that the participants were representative of the groups they are supposed to represent. The fact that the participating GPs were largely self-selected, perhaps on the basis of their personal interest in the subject, was a potential flaw that the authors acknowledge.

Further, an examination of diagnostic accuracy should also take into account whether the lesions found were of similar type, size and stage. There was no determination of any qualitative differences (eg, in size or thickness) between the tumours seen and diagnosed by the two groups. When a patient presents, specifically, with a large, tender, hyperkeratotic squamous cell carcinoma (SCC), there is no real test of diagnostic skills. On the other hand, detecting a small early posterior-thigh melanoma or a superficial BCC on a whole body examination is a challenge. Overall, one would expect at least two to three BCCs to be diagnosed for each SCC found[2] — however, in the study by Youl et al, GPs found a similar proportion of each type of lesion, suggesting that perhaps a large number of BCCs were not being detected at all in the GP group.

The lower incidence of whole body examinations in the GP group suggests that a higher proportion of asymptomatic lesions may have been missed by the GP group and thus not included in their sensitivity/specificity data. This possibility could have been examined by noting the site of lesions found: identification and diagnosis of lesions in areas covered by clothing or footwear may be more likely on whole body examination.

Although Youl et al reported that the diagnostic sensitivity for melanoma among skin cancer clinic doctors was twice that of GPs, a re-examination of the data with all of the above in mind may well reveal that skin cancer clinic practitioners are performing even better than suggested.

That being said, the number of melanomas found per week by the skin cancer group (0.25 melanomas/doctor/week) in the study by Youl et al is much lower than in our own dedicated primary care skin cancer clinic (1.47 melanomas/doctor/week, based on audit data gathered between February and September 2007).