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Grid system and body diagram for leprosy

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Summary Based to some extent on systems used for the charting of burns, multiple injuries and melanomas, a grid system and body diagram is described for the accurate charting of sites of skin smears in leprosy. It may, however, also be used for the recording of birthmarks, scars, 'doubtful' skin lesions and sites from which biopsies have been taken, either in drug trials or for routine purposes. It is suggested that the combined use of a body diagram and a written record of the relevant grid space, using figures 1–10 and letters A–L, will increase the accuracy with which such sites are recorded. It could also be of value if data are to be analysed by computer.

Introduction

Sites from which slit-skin smears of leprosy patients are taken may vary according to skin lesions, classification or personal preference. Reports on the smears are usually given in the form of an average bacterial index (BI) and morphological index (MI), combining the readings of all smears taken from the various sites of the patient at the same session. However, in the case of the smear of one of the sites having a BI and/or MI markedly higher than the average, as might occur in the case of patients who are not pure LL, in relapses of LL patients, or at sites of persistent positivity, it is of fundamental importance not only to record that one smear had a BI and/or MI markedly higher than the average, as already emphasized,[1] but also to record the smear site which produced this higher BI and/or MI. This is all the more important since a smear from this site must of course be included in the taking of subsequent smears.

To facilitate the accurate but simple recording of the site of a particular smear or of a skin lesion from which the smear was taken, and has to be taken in future, a search was carried out of the literature for grid systems and body diagrams which could be used for this purpose. The system appearing in *Leprosy in Theory and Practice*[2] and that used in Australia at the Sydney Hospital Melanoma Clinic

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have limited practical application in the present context, but the 'Simple grid system for charting burns and multiple injuries',[3] published specifically for the recording of sites from which specimens for bacteriological culture were taken in patients with extensive burns, is of considerable interest. With slight modifications, we in the northern part of Malawi have used such a grid system and body diagram for over a year, especially for the recording of 'unusual' sites of slit-skin smears, and found it of practical use both in the field and the laboratory.

Design and use of the grid system and body diagram

Sachs,[3] wherever possible, had the ordinates run through 'bony' landmarks, presumably in order not to get misled by sagging flesh. The front and back images (Figure 1) are consequently not in exactly ideal proportion, as they are restricted by the same ordinates—1/2: through eyebrows and upper part of the ears; 2/3: through the mouth; 3/4: through the suprasternal notch, and the claviculae; 4/5: through the xiphoid process, the inferior angle of the scapulae, and the middle of the humeri; 5/6: through the umbilicus, the iliac crests and the elbow joints; 6/7: through the pubis, the inferior margin of the buttocks and the wrist joints; 7/8: through the middle of the thighs; 8/9: through the knee joints; 9/10: through the malleoli.

In the grid system now described, A/B, D/E, F/G and K/L separate the arms from the trunk (and the ears from the head), C and H are front and back midline (adapted from Sydney Hospital Melanoma Clinic). Though Sachs had the letters A–J as ordinates and the figures 1–8 as abscissae, the present version has the letters as abscissae, and other letters are added for the front and back midlines (C and H), whilst leaving I and J out (since both may be confused with each other or with the figures), substituting them by K and L. The figures (1–10) are placed as ordinates, because map coordinates usually place the ordinate before the abscissa, and there will be less room for confusion in recording a BI of 5+ from a smear above the right breast as 4B5+, rather than as D25+ (as Sachs' system would have it).

The 10 abscissae and the 10 ordinates would make it practical to put data on the site of single-skin lesions into a computer. Lesions on the exact lateral side of the body or limbs can be indicated by a combination such as 4A/L (over the right deltoid muscle, as for BCG scars in Malawi), or 9/10B/K (for a lesion over the right lateral malleolus). When *smears* from both earlobes are taken *routinely*, these sites can be indicated as X (right earlobe) and Y (left earlobe), reserving 2A and 2E for *lesions* on the right and left ear, which are *not* on the earlobe. The grid as used in Malawi, has been designed with an outer border 12×12 cm, around a grid of 10×9 cm and it can easily be glued on the inside cover of the diaries used by our leprosy workers.

It is, however, possible to print this grid system and diagram on patients'

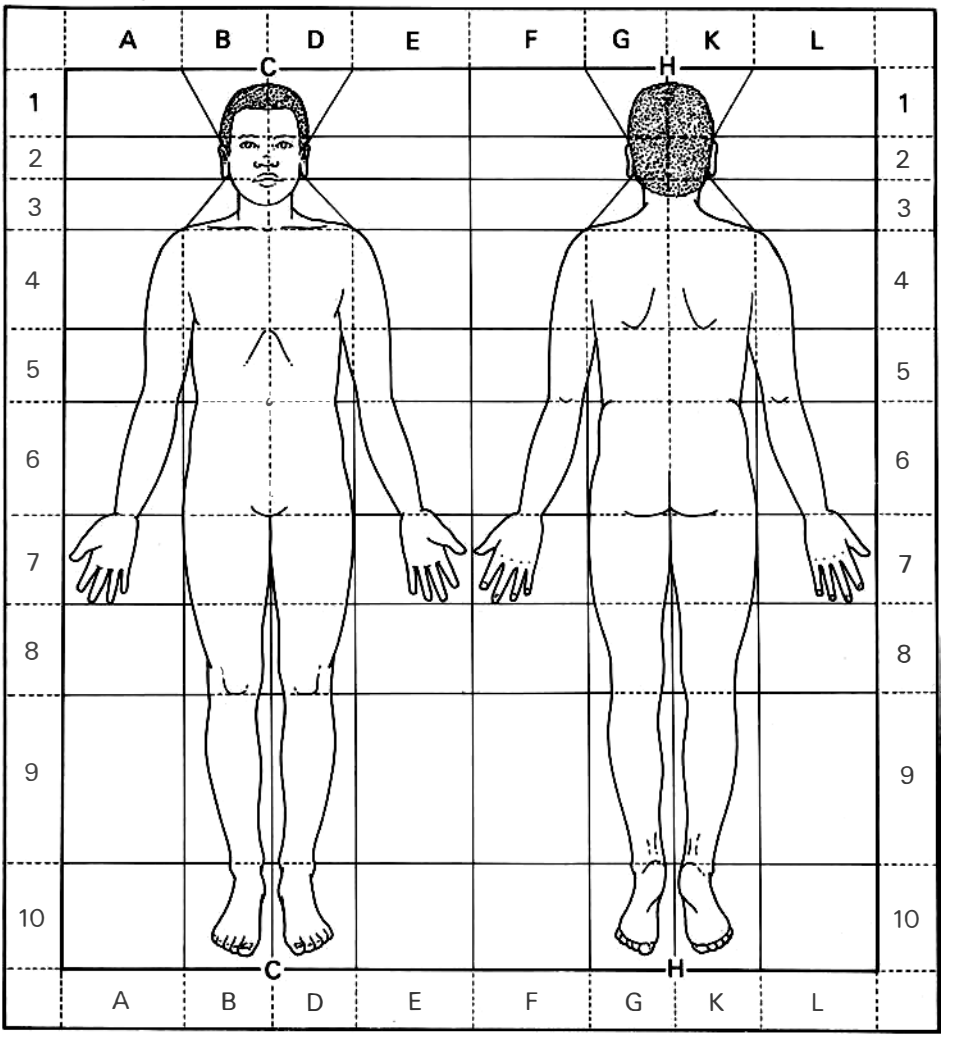

Figure 1

record cards, or to overprint the grid if such cards feature a diagram of the body already. This would almost certainly enhance the accuracy with which lesions are drawn in the diagram.

We have also started using this grid system to record the sites of presumed birthmarks, scars (for later identification) and doubtful leprosy skin lesions when examining contacts of leprosy patients. It also could be of value for the detailed recording of exact sites from which biopsies are taken in drug trials, or for routine purposes.

References

[1] Warndorff T. *Int J Lepr*, Do the average bacterial and morphological indices reflect the patients' true condition? 1980; **48:** 441–2.

[2] Cochrane R. *Leprosy in Theory and Practice*, Appendix VIII, p. 388. Bristol: John Wright and Sons Ltd, 1959.

[3] Sachs A. Simple grid-system for charting burns and multiple injuries. *Lancet*, 1973; (31 March) 700.