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Problems of cell nomenclature in cervical cytology smears

Recommendations of a Working Party[1] of the British Society for Clinical Cytology

It has become more and more apparent that diagnostic cytology is suffering from ambiguities and conflicts in terminology. A working party was therefore set up by the British Society for Clinical Cytology, and this statement represents its majority views (which were not unanimous) on some of the principal areas of confusion in the nomenclature of cells from the cervix uteri.

Preamble

A cervical cytology report can contain three elements. First there may be a cellular description. Secondly there may be an opinion about the probable underlying histological picture. Thirdly there may be a recommendation about action or repetition of the smear. The last two elements are given code numbers on the British National Cervical Cytology Request/Report Form. The report represents an assessment of the whole specimen, emphasis being concentrated on the 'worst' cells found in it.

The Working Party did not consider the second and third elements at all. Its brief was to look into the *names of individual cells*. Whether or not any cells are named in the issued report, it is essential for communication within and between laboratories, and for teaching, that cells should be given names.

Recommendations

Except where our recommendations differ, we endorse the terminology for cervical cells used in the *WHO Atlas* (Riotton and Christopherson, 1973).

1. NORMAL CELLS

Superficial and intermediate squamous cells
These names and their definitions are in universal use and are acceptable.

Parabasal cells
Small squamous cells are shed from the surface of atrophic or regressive epithelium, as well as from areas of squamous metaplasia and regeneration. Because the name is in almost universal use, it is recommended that they all be called 'parabasal cells' unless the cytologist feels confident that they come from immature or partially mature squamous metaplasia. In that case, they should be called 'squamous metaplastic cells'.

Basal cells
These are not normally seen in cervical smears.

Endocervical columnar cells, endocervical reserve cells, endometrial cells, histiocytes
These names are acceptable, as used in the *WHO Atlas*.

Cells of haemic and lymphoid origin
The names of these cells should conform to current haematological usage.

2. CELLS FROM MALIGNANT AND PUTATIVE PREMALIGNANT STATES

In this area there are very wide differences of usage, not only in different laboratories at present, but extending back to the time of Papanicolaou.

In a number of textbooks, including the *WHO Atlas*, the problem is sidestepped by not naming the cells at all, but illustrating a whole field and stating, in the caption, the corresponding histological diagnosis. Referring to individual cells, we ought not to point to a 'dysplastic cell' or a 'carcinoma in situ cell'. We need to be able to describe single cells in terms of what is seen down the microscope without necessarily making an inference about the histology; any such inference is made from examining the whole smear. This is particularly important since different histologists draw very widely different dividing lines between dysplasia and carcinoma in situ. Compare, for instance, Fig. 12.92 in Koss (1968) and Fig. 16 in Govan

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et al. (1969). The lesion illustrated by Koss would by many observers be called dysplasia, but since Koss calls it carcinoma in situ, he accordingly describes the corresponding cells as 'cancer cells'.

Papanicolaou introduced the term 'dyskaryosis' to describe the appearance of cells seen in carcinoma in situ or 'early malignancy', characterised chiefly by an abnormal nuclear morphology, that is 'disproportionate enlargement, irregularity in form and outline, hyperchromasia and multinucleation' (Papanicolaou, 1954). Such nuclei also show irregular chromatin condensation, sometimes stippled, sometimes clumped or stranded and often specially condensed beneath the nuclear membrane. 'Dyskaryotic patterns are usually found in smears from cases in which the lesion is still in an intraepithelial preinvasive stage (stage 0) or, more rarely, in cases of early invasion (stage I)' (Papanicolaou, 1954). 'Superficial cell dyskaryosis' was supposed to correspond with dysplasia, and 'parabasal cell dyskaryosis' with carcinoma in situ.

Papanicolaou did not call the cells of carcinoma in situ 'malignant cells' or 'cancer cells'. Since then, however, the practice has grown up in many laboratories of calling the cells of carcinoma in situ 'malignant cells' and using 'dyskaryosis' to imply that nothing more than dysplasia is present. This is unsatisfactory, because the term 'malignant cell' is not descriptive of a cell type but rather an inference about its potential. We consider that if a less loaded term can be found, carrying more information about what a cell looks like down the microscope, this would be much preferable. Many histopathologists and others are strongly critical of using the word 'malignant' for states such as carcinoma in situ, which may not necessarily be progressive. The word would also be highly misleading to any patient accidentally or deliberately reading her own report.

We recommend the use of 'dyskaryosis' and 'dyskaryotic' to describe the nuclear abnormalities, whether or not the cytologist is of the opinion that carcinoma in situ or even early invasion is present. If the superficial or parabasal cells show dyskaryosis, the terms 'superficial cell dyskaryosis' or 'parabasal cell dyskaryosis' may be used; or we may speak of a 'dyskaryotic cell with poor cytoplasmic differentiation', etc. This is similar to Papanicolaou's original usage. The term 'dyskaryosis' may also be used when referring to endocervical or endometrial cells.

The *WHO Atlas* uses the word 'atypical' (Figs 38 and 39). This word has become ambiguous, and we do not recommend its continued use. Where it is certain that invasion has occurred, the term 'malignant cell' may be used, as well as more specific diagnostic labels such as 'adenocarcinoma cell' or 'squamous carcinoma cell'. Names for particular shapes, such as 'tadpole cell' and 'fibre cell' are also permissible.

Since the terminology recommended above avoids the introduction of new labels and departs only slightly from long-established usages, we hope that it may be generally adopted.

References

Govan, A. D. T., Haines, R. M., Langley, F. A., Taylor, C. W., and Woodcock, A. S. (1969). The histology and cytology of changes in the epithelium of the cervix uteri. *Journal of Clinical Pathology*, **22**, 383-395.

Koss, L. G. (1968). *Diagnostic Cytology and its Histopathologic Bases*, 2nd edition. Lippincott, Philadelphia.

Papanicolaou, G. N. (1954). *Atlas of Exfoliative Cytology*. Commonwealth Fund, Harvard University Press, Cambridge, Massachussetts.

Riotton, G., and Christopherson, W. M. (Eds) (1973). *Cytology of the Female Genital Tract* (International Histological Classification of Tumours, No. 8). WHO, Geneva.

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