Poorly-Differentiated Laryngeal Malignancies

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The current practice of tumour diagnosis is based on a combination of histogenetical and behavioural classification. The abnormal behaviour of neoplasms has been expressed through the differentiated properties of their cells, as reflected in various systems of classification, which may change with the better understanding of the biological character of the neoplastic cells. The term 'undifferentiated' has been attributed to a heterogeneous group of neoplasms of the larynx listed in table 1. The terms 'undifferentiated', 'poorly differentiated' or 'anaplastic' have been used to indicate tumours with no characteristic microscopical features. They do not define type but serve as an umbrella designation for neoplasms that cannot be classified more accurately by conventional microscopy. These terms may no longer be tenable.

Though light microscopy will remain the mainstay of cancer diagnosis, modern immunocytochemical methods and other techniques [1] (morphometry, cytophotometry, flow cytometry, transmission electron microscopy, scanning electron microscopy, cyto-genetics, biochemical assay of tumour products, cell kinetics, hormone receptor assay, DNA analysis) have given a new impetus to the investigation and identification of poorly defined neoplasms and have contrib-

uted to a better understanding of human tumour biology.

The application of electron microscopy and sophisticated immunological techniques for the detection of cellular antigens has contributed considerably towards the more precise classification of most tumours reported as 'undifferentiated' by conventional light microscopy. It has enabled the examination of routinely processed biopsy specimens and the differentiation between malignant neoplasms of epithelial, mesenchymal, melano-genic and lymphoreticular origin. Table 2 lists the ultrastructural features and major cellular antigens related to tumour types.

Ultrastructural investigations can be useful in certain tumours, such as laryngeal neu-

Table 1. Poorly differentiated laryngeal malignancies

Poorly differentiated squamous cell carcinoma

Small cell squamous carcinoma

Poorly differentiated neuroendocrine carcinoma

Poorly differentiated adenocarcinoma

Poorly differentiated adenoid cystic carcinoma

Undifferentiated carcinoma of nasopharyngeal type

Amelanotic melanoma (primary and secondary)

Lymphomas

Table 2. Ultrastructural and immunohistochemical characterisation of 'undifferentiated' malignant neoplasms of the larynx

roendocrine neoplasms [2]. The presence of neurosecretory granules is of diagnostic value in this heterogeneous group (which includes typical carcinoid tumours, atypical carcinoid tumours, small cell neuroendocrine carcinomas and paragangliomas). The presence of microvilli is believed to be a specific and sensitive indicator of glandular differentiation. Such a multiparameter approach has proved of great assistance to conventional tumour diagnosis by pattern recognition alone. The identification of various diagnostic, though non-specific [3], antigenic substances in individual cells by means of monoclonal antibodies has led to a more precise diagnosis of a tumour which could be defined according to cell type. Important decisions on the choice of surgery, radiotherapy, chemotherapy or laser therapy depend on this. The term 'undifferentiated' may become redundant as a separate morphological entity. Meanwhile such neoplasms should be designated as 'unclassified'.

References

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