Correspondence

Letters for inclusion in Cytopathology will be published in the next available issue.

PROCEDURES OF RAPID RESCREENING OF PAP SMEARS

Dear Editor We read with great interest the article by Dudding et al.\(^1\) on rapid rescreening. Although we are unable to present statistical analysis, we would like to briefly report the procedures we use in our laboratory. First, we cover all the slide with speed movement using objective 4x at approximately 30 s, so that cytologist can:

- evaluate the 'cell pattern', immediately excluding several smears, e.g. some of the atrophic ones;
- detect the presence of endocervical component;
- detect suspicious areas to evaluate with objective 10x;
- pick up microbiopsies.

Since the small cells of high grade lesions may not be seen at this magnification, for their search and for the serendipitous finding of sparse abnormal cells, we switch to the 'step' technique at approximately 30 s using objective 10x according to Figure 1(a) in Dudding et al.'s paper.

Although we agree with the authors’ statement that there is no perfect approach to rapid rescreening, we would like to hear of other cytologists’ experiences on procedures which differ from those described by Dudding et al., in order to improve and eventually standardize the methodology.

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CYTOLOGICAL FINDINGS OF A PRIMARY MEDIASTINO-PULMONARY LEIOMYOSARCOMA. REPORT OF A CASE DIAGNOSED BY ENDOSCOPIC ULTRASONOGRAPHY-GUIDED FINE NEEDLE ASPIRATION

Dear Editor Leiomyosarcomas (LMS) are rare tumours that are more commonly found in the gastrointestinal or female genital tract and soft tissues.\(^1\) They can, in exceptional cases, involve the mediastinum or lungs.\(^1,2\) We report the cytomorphological features of a high-grade mediastino-pulmonary LMS diagnosed by endoscopic ultrasonography-guided fine needle aspiration (FNA).

A 55-year-old woman, who had had a hysterectomy 6 years ago for uterine leiomyoma, presented with acute pneumonia and a right pleural effusion which was initially treated with antibiotics. As recovery was slow, thoracic radiography was performed and showed a posterior mediastinal mass. Computed tomography (CT) revealed a right hilar lesion with probable spread to the lung. Fibreoptic bronchoscopy and transthoracic FNA biopsies under CT were non-contributory. Transoesophageal ultrasonography showed a 41 × 32 mm hilar mass abutting against the right side of the oesophagus without infiltration, and clinging to the posterior pericardium of the left auricle. A transoesophageal ultrasonography-guided aspiration was performed. On the basis of the FNA findings, the treatment was surgery followed by chemotheraphy. The patient is free of recurrent or metastatic disease 1 year later, at the time of this report.

Endoscopic ultrasonography-guided FNA was performed using a convex array (GF UC30 P; Olympus). For the lesion located...
in the mediastinum, biopsies were obtained via the oesophagus. Six successive passes were taken using a 22 G needle. The content of the needle was expelled onto 19 glass slides which were air-dried for Diff Quik staining. Tissue fragments were immersed in AFA fixative and embedded in paraffin for further staining with haematoxylin eosin safron (HES) and immunochemical studies.

Cellularity of the FNA sample was very poor and was composed of some cohesive sheets of slightly plump or spindle cells which were characterized by a high nuclear cytoplasmic ratio, elongated or rounded nuclei with irregular outlines and clumped chromatin with distinct nucleoli (Figure 1a). These cells were admixed with a few collagen fibres. Rare multinucleated giant tumour cells were present. Mitoses were scarce. The cell block preparation demonstrated similar morphological findings. A fascicular arrangement of the cells was more obvious; their cytoplasm was eosinophilic on HES (Figure 1b). No necrosis could be found. Immunochemistry revealed weak staining for smooth muscle actin, but cytokeratin, EMA, synaptophysin, desmin, S100 protein, HMB45, leucocyte common antigen, CD15 and CD30 were not expressed. The cytological diagnosis was 'consistent with leiomyosarcoma'.

The middle and lower resected pulmonary lobes contained a tumour of 7.5 cm diameter surrounding the hilar vessels and infiltrating the contiguous pulmonary parenchyma. The mass was homogeneous, with a firm, white-grey surface with sharply marginated borders. On microscopic examination, spindle shaped cells with abundant eosinophilic cytoplasm and markedly atypical nuclei were arranged in densely packed interlacing bundles. Mitotic

**Figure 1.** (a) Clustered cells which display elongated, irregular nuclei and moderately abundant cytoplasm (Diff Quik, × 400). (b) Fascicular proliferation of spindle-shaped cells in the cell block preparation (HES, × 200).

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activity was high (20 mitosis/10 HPF). Necrosis involved less than 50% of the tumour and extensive hyalinization was noted. Immunohistochemically, there was diffuse strong staining for muscle-specific actin (HHF35). The diagnosis of poorly differentiated LMS was confirmed. Its precise origin was difficult to establish (pulmonary parenchyma, hilar vessels or mediastinum).

A few primitive or metastatic LMS are documented in sputum, bronchial brushing, transbronchial and transthoracic FNA. The LMS reported here was diagnosed by endoscopic ultrasonography-guided FNA which is an innocuous diagnostic procedure, especially for mass lesions in the dorsal mediastinum. FNA guidance of this type is a very effective method, avoiding more invasive procedures such as thoracotomy and mediastinoscopy. The overall sensitivity and specificity of this method in the diagnosis of mediastinal malignancy is 89% and 83%, respectively. A cytological characteristic of LMS is the presence of spindle cells with ‘cigar shaped’ nuclei and abundant, fibrillary, eosinophilic cytoplasm. These criteria are in fact inconstant, especially in the case of high-grade LMS as shown in this report. Indeed, these LMS appear more pleomorphic with irregular hyperchromatic nuclei, scant cytoplasm and numerous multinucleated giant tumour cells. Immunohistochemical study is then necessary to exclude poorly differentiated carcinoma (no expression of cytokeratin and EMA), spindle cell melanoma and neural tumours which are more frequently observed in the posterior mediastinum (negativity of HMB45 and S100 protein), Hodgkin’s disease and primary mediastinal large B cell lymphoma with sclerosis (absence of leucocyte common antigen, CD15, CD30). A solitary fibrous tumour of the mediastinum can be mistaken for LMS but does not show any cytological atypia and does not stain for smooth muscle antigen. Distinction between leiomyoma and LMS can not be easily made. Tao emphasizes the dis cohesive pattern of spindle cells, multinucleation, scanty cytoplasm, presence of vascularization and necrotic background as cytological criteria of malignancy. In fact, however, establishing the specific histological subtype of a surgically operable connective neoplasm is not as important as ruling out the possibility of a small cell carcinoma or lymphoma which do not require surgical treatment.

Primitive thoracic LMS is rare and can develop in lung, mediastinum or pleura. Metastatic pulmonary LMS are more frequently seen, especially in women. In the case described above, the uterine leiomyoma has been re-examined and the initial diagnosis of leiomyoma has been confirmed. Treatment of thoracic LMS is surgical, followed by adjuvant chemotherapy and/or radiotherapy. Prognosis is poor due to local recurrences and metastasis and depends on histological grade, tumour size and resection quality.

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