Short Communications

Fine Needle Aspiration Cytology of the Thyroid Osteosarcoma

Report of a Case

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Summary. The fine needle aspiration cytology of a histologically verified primary osteosarcoma of the thyroid gland is reported for the first time in literature. The histogenesis and the differential diagnostic aspects of this extremely rare tumor are briefly discussed.

Key words: Cytology – Needle aspiration – Thyroid Osteosarcoma

Osteogenic sarcoma originating from the thyroid gland is a rare neoplasm. The first such case was reported more than 100 years ago (Foerster 1860). Prior to the present communication, only 22 cases fulfilling the criteria of primary thyroid osteosarcoma could be found in the literature (Broders and Pemberton 1934; Foerster 1860; Funkenstein 1903; Lang and De Nunno 1963; Lira and Maranhao 1965; Livingstone and Sandison 1963; Pinston 1958; Roberts 1968; Solaro 1913). None of these reports, however, gives the cytological description of this tumor. The present communication is a report of the 23rd case of primary thyroid osteosarcoma, and, at the same time, the first to describe the fine needle aspiration cytology of this peculiar neoplasm.

Case Report

A 62-year-old woman was admitted to hospital with a 1-week history of severe dyspnoea. In previous medical history she had undergone a partial thyroid resection because of a nodular goiter some 15 years earlier. During the last few months, a nodular growth had appeared in thyroid region, and she was awaiting a call for new operation of this lesion clinically suspected to be a residual nodular goiter.

When first seen in hospital, she had severe respiratory insufficiency due to an outward tracheal compression by a large thyroid mass of hard consistency. In chest roentgenogram, widespread metastases were encountered in both lungs. As a life-saving measure, an endotracheal intubation was performed. Fine needle aspiration biopsy was instituted, and the diagnosis of sarcoma was made. Because of the pulmonary metastases, a palliative thyroidectomy, only, combined with tracheostomy was instituted. The post-operative course was uneventful, and she is at present on maintenance chemotherapy in her local hospital.
Fig. 1. Fine needle aspiration biopsy specimen from the thyroid mass causing tracheal compression. A dense cluster of spindle-shaped malignant cells suggesting sarcomatous nature of the lesion is seen in the center. Similar cells arranged in small aggregates or scattered singly are found elsewhere in this figure. (Papanicolaou stain, original magnification × 40)

Fig. 2. A medium power detail on the cell cluster shown in Fig. 1. The great majority of the cells are spindle-shaped with slender, hyperchromatic, and centrally located nuclei. A few plump-shaped cells (arrow) are found amidst the spindle cells. (Papanicolaou stain, original magnification × 340)