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Lymphocyte nuclei of nodal marginal zone lymphoma mimicking granulocytic morphology with Pelger–Huët-like features

Sir,

Nodal marginal zone lymphoma (NMZL) with peripheral blood involvement is observed in only a small proportion of patients and usually shows small-to medium-sized centrocyte-like neoplastic lymphocytes in a peripheral blood smear.^{1–3} This disease may present with frequent plasmacytoid differentiation or occasional monocytoid appearance; however, the granulocytoid appearance of nuclei is rarely

Fig. 1 Morphology of abnormal lymphocytes on peripheral smear. (A–D) Metamyelocyte-like kidney bean-shaped nuclei; (E–H) band-shaped nuclei; (I–L) multi-lobed nuclei; and (M–P) pseudo Pelger–Huët-like pince-nez-shaped nuclei (Wright-Giemsa staining $\times 1000$).

observed. Here, we report a case of NMZL with a granulocytoid appearance of nuclei and a Pelger–Huët-like anomaly in a peripheral blood smear.

A 56-year-old female presented with neck lymphadenopathy and night sweats for 4 months. Her complete blood count demonstrated haemoglobin 88 g/L, lymphocytes $22.73 \times 10^9/L$ and platelets $156 \times 10^9/L$. The blood film revealed 78% abnormal lymphocytes, which mimicked granulocytic development in nuclear morphology, including metamyelocyte-like kidney bean-shaped nuclei (Fig. 1A–D), band-shaped nuclei (Fig. 1E–H) and multilobed nuclei (Fig. 1I–L). It was interesting to note that some neoplastic lymphocytes showed pseudo Pelger–Huët-like pince-nez-shaped nuclei (Fig. 1M–P). Flow cytometric analysis performed on bone marrow revealed the presence of an atypical lymphocyte population that comprised 83% of the total lymphocytes analysed. The atypical lymphocytes expressed CD19, CD22, lambda, and CD200 and partially expressed CD23 but lacked CD5, CD10, CD103, kappa, CD138, CD38, CD34, and sIgM. Molecular study revealed *BIRC3* and *P53* mutations. Bone marrow and lymph node biopsies confirmed the diagnosis of NMZL with bone marrow infiltration.

Pelger–Huët anomaly is an inherited benign condition that is characterised by the abnormality of chromosome segregation of neutrophils leading to bilobed, peanut- or dumbbell-shaped nuclei. The classic morphological abnormality is known to be caused by mutations of the Lamin B receptor (LBR) gene, which maintains the nuclear membrane structure.⁴ Pseudo Pelger–Huët anomaly, as a marker of granulocytic dysplasia, is only involved in neutrophils, which may occur in myelodysplastic syndrome (MDS) and acute and chronic leukaemias or can be drug-induced.^{5,6} The Pelger–Huët-like anomaly of lymphocytes is an extremely uncommon phenomenon that, to the best of our knowledge, has not been reported before. In contrast to the neutrophil Pelger–Huët anomaly, which is caused by failure of nuclear segmentation, the lymphocyte Pelger–Huët-like anomaly is caused by abnormal nuclear lobulation.

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Micronodular thymoma with lymphoid stroma: a clinicopathological study of five cases

Sir,

Micronodular thymoma with lymphoid stroma (MTLS) is a rare subtype of thymoma that was a new inclusion in the third edition of the World Health Organization (WHO) Classification of Tumours of the Lungs, Pleura, Thymus and Heart released in 2004.¹ Recognition of this histological subtype of thymoma is important as it has an excellent prognosis, with only a single published case of recurrence that occurred after incomplete initial resection.²

We identified all MTLS from the archives of Tissue Pathology and Diagnostic Oncology, Royal Prince Alfred Hospital, NSW Health Pathology, Sydney, and reviewed clinical and pathological features. Over an 8-year time period, five cases of MTLS were identified.

The patients were four women and one man, aged between 58 and 70 years (mean 65.4 years) (Table 1). All tumours were found incidentally on computed tomography within the thymus in the anterior mediastinum and there was no evidence of regional nor metastatic spread. None of the patients had symptoms consistent with myasthenia gravis or any other autoimmune diseases. All patients underwent thymectomy, one with a minimally invasive surgical technique with the rest via conventional midline sternotomy. Two patients had cardiac valve pathology requiring intervention, which was attended to at the same time as thymectomy.

Tumour size ranged between 22 and 60 mm in maximum dimension (mean 45.4 mm). One tumour was solid, with the rest mixed solid and cystic. There were similar histological findings in all tumours (Fig. 1A–D). The tumours were well circumscribed and one tumour had a variable thickness capsule, with the rest unencapsulated. There were coalescing nests of bland oval to elongated epithelial cells with an intervening rich lymphoid stroma. The epithelial cells showed oval vesicular nuclei, small nucleoli and moderate amounts of indistinct pale eosinophilic cytoplasm. The lymphoid stroma contained follicles with reactive germinal centres. Up to four lymph nodes were identified within the