Malays J Pathol 2024; 46(3) : 463 – 464

LETTER TO EDITOR

Incidental finding of intravascular large B cell lymphoma in a multinodular goiter

Nurul Atiqah Abu Sahmah[1], Kevin Min Yek Ling[1], Shahrun Niza Abdullah Suhaimi[3], Suria Hayati Md Pauzi[1,2], Yin Ping Wong[1,2], Geok Chin Tan[1,2*]

[1]Department of Pathology, Faculty of Medicine, Universiti Kebangsaan Malaysia, Jalan Yaacob Latif, Bandar Tun Razak, Kuala Lumpur; [2]Department of Diagnostic Laboratory Services, Hospital Canselor Tuanku Muhriz, Kuala Lumpur; [3]Department of Surgery, Faculty of Medicine, Universiti Kebangsaan Malaysia.

Dear Editor,

Intravascular large B cell lymphoma (IVLBCL) has an estimated incidence of 1 in 1 million population.[1] Here, we present the histopathological findings of a case of IVLBCL identified incidentally in the thyroid of a patient with multinodular goiter. This was a 74-year-old lady presented to our hospital with exertional dyspnea. She was found to have multinodular goiter with retrosternal extension and tracheal compression. Otherwise, she was euthyroid. Clinically, there was neither lymphadenopathy nor hepatosplenomegaly. Subsequently, a hemithyroidectomy was performed. Macroscopic examination showed multiple nodules with two dominant nodules displaying brownish myxoid cut surface. Microscopically, there are multiple clusters of large atypical lymphoid cells identified within the capillaries, in particularly seen in the prominent nodules without any extravascular growth. These cells showed large, pleomorphic nuclei, irregular nuclear membrane, hyperchromatic to vesicular nuclei, prominent single to multiple nucleoli and scanty cytoplasm. Immunohistochemically, they are positive towards LCA and CD 20 and shows non-germinal center subtype with high proliferative index (Fig. 1 and 2). A final diagnosis of classic IVLBCL was rendered.

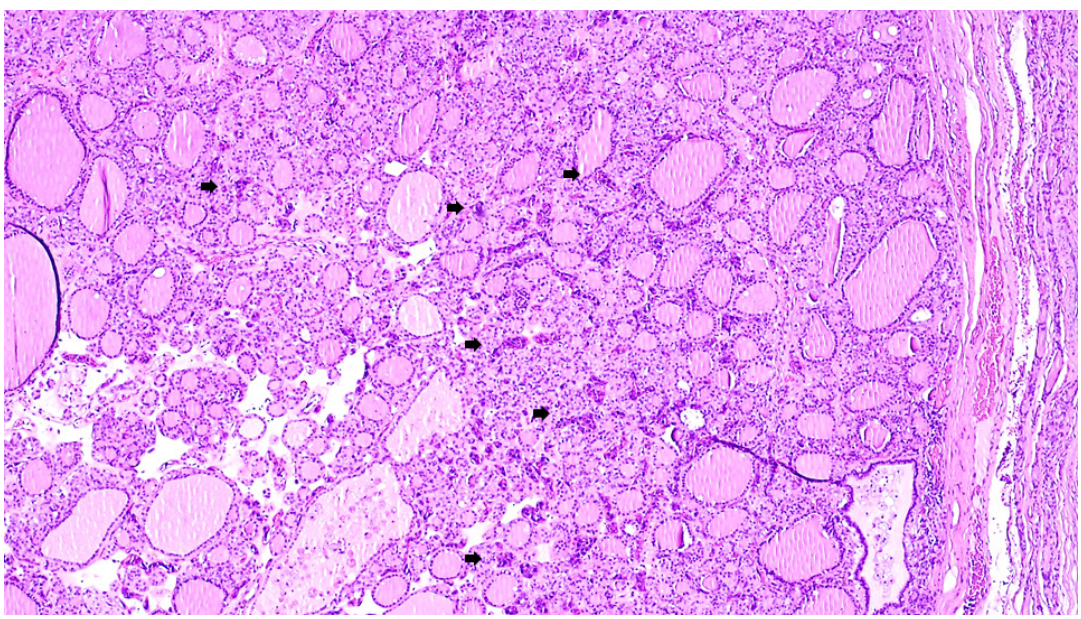

Fig. 1. There are many atypical lymphoid cells within the vascular spaces in an adenomatoid nodule (small black arrows)(H&E, x20).

**Address for correspondence*: Geok Chin Tan, Department of Pathology, Faculty of Medicine, Universiti Kebangsaan Malaysia, Malaysia.
Tel: +603-6145 5362. Email: *tangc@hctm.ukm.edu.my*

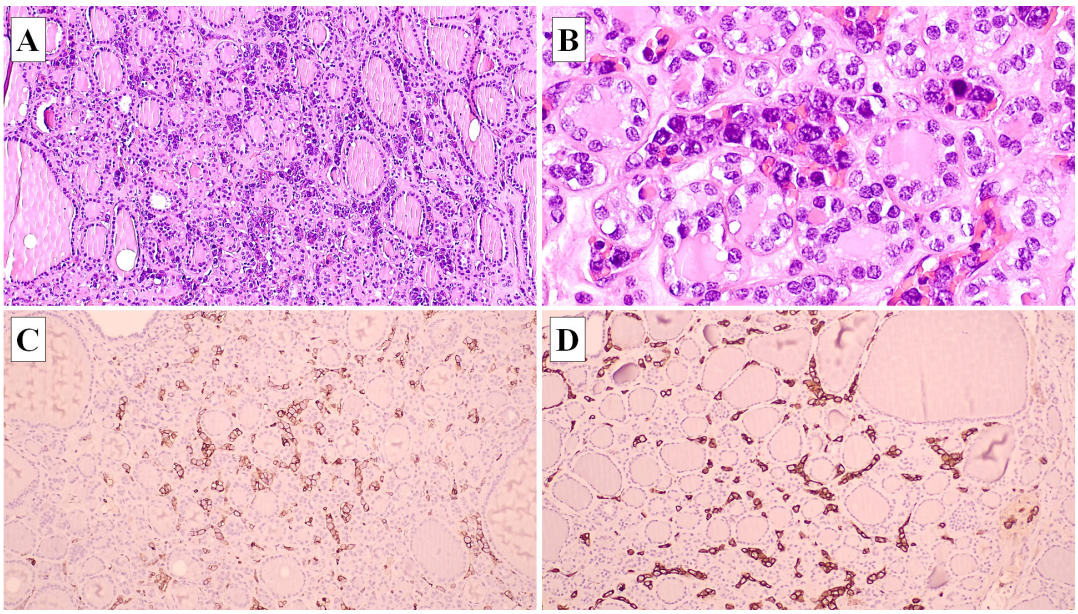

Fig. 2. Intravascular large B cell lymphoma. A) Multiple clusters of intravascular atypical lymphoid cells (H&E, x40). B) The atypical lymphoid cells demonstrate singularly distributed, markedly pleomorphic and hyperchromatic nuclei, coarse chromatin and high nucleo-cytoplasmic ratio (H&E, x400). These cells are positive toward leukocyte common antigen (LCA)(C) and CD20 (D) immunohistochemistry.

IVLBCL usually presented with non-specific symptoms without lymphadenopathy and absence of lymphoma cells in peripheral blood smears. It usually presents with a delayed diagnosis; hence, usually have a guarded prognosis. The other possible sites of involvement are various endocrine organs, brain, lung, spleen, kidney and skin. Only a few cases of IVLBCL have been reported in the thyroid gland. Studies have shown that chemotherapy with rituximab improved the clinical outcome.[2] Recently, study showed a high prevalence of mutations in genes involved the BCR/NF-κB signaling pathway and alterations in genes modulating the interactions of tumor cells with the microenvironment beyond the PD-L1 axis.[3] It is crucial to go through the slides at high magnification even in a case of clinical suspected multinodular goiter to prevent misdiagnosis. Subsequently, a judicious use of immunohistochemistry is important to work-up the case with atypical cells in the blood vessels. The possible differential diagnoses include lymphangitic carcinomatosis, intravascular leukaemic infiltrate and lymphangitic spread of melanoma.

Keywords: Incidental finding, large B cell lymphoma, goiter, thyroid

Acknowledgement: None.

Author Contributions: All authors contributed equally in the development of this manuscript.

Conflict of interest: The authors declare no conflict of interest.

REFERENCES

1. Chihara T, Wada N, Ikeda J, *et al*. Frequency of intravascular large B-cell lymphoma in Japan: study of the Osaka Lymphoma Study Group. J Hematol Oncol. 2011;4:14.
2. Shimada K, Matsue K, Yamamoto K, *et al*. Retrospective analysis of intravascular large B-cell lymphoma treated with rituximab-containing chemotherapy as reported by the IVL study group in Japan. J Clin Oncol. 2008;26(19):3189-95.
3. Gonzalez-Farre B, Ramis-Zaldivar JE, Castrejón de Anta N, *et al*. Intravascular Large B-Cell Lymphoma Genomic Profile Is Characterized by Alterations in Genes Regulating NF-κB and Immune Checkpoints. Am J Surg Pathol. 2023;47(2):202-211.