

## Reactive lymphoid hyperplasia with giant follicles associated with a posttherapeutic state of hematological malignancies. A report of eight cases

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### ABSTRACT

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**Aims and background.** To further clarify the clinicopathological, molecular genetic and karyotypic findings of reactive lymph node hyperplasia with giant follicles (RLHGF) associated with a posttherapeutic state of hematological malignancies, we studied eight such cases.

**Methods.** Using formalin-fixed, paraffin-embedded sections, histological, immunohistochemical, *in situ* hybridization (ISH), and polymerase chain reaction (PCR) were performed.

**Results.** Six patients had a history of malignant lymphoma (diffuse large B-cell lymphoma [DLBCL] = 4, marginal zone B-cell lymphoma = 2), and two had acute myeloid leukemia (AML). Six patients initially presented with lymphadenopathy of the head and neck area and the remaining one presented with swelling of the tonsil. All seven cases demonstrating analyzable metaphases showed a normal karyotype. Histologically, all eight lesions were characterized by numerous enlarged, bizarre-shaped coalescing lymphoid follicles with follicular lysis. Immunohistochemical and flow cytometry study demonstrated the reactive nature of the B cells in all eight lesions. However, three of our eight cases demonstrated immunoglobulin heavy-chain (IgH) gene rearrangement on PCR study. Different clonal bands were detected in the initial lymphomatous tissue and RLHGF in one of the studied cases. There was no development of B-cell lymphoma or recurrence of B-cell lymphoma in any of the three lesions demonstrating IgH rearrangement. There were no human herpes virus type-8+ or human immunodeficiency virus type-1+ cells in any of the eight lesions. ISH demonstrated Epstein-Barr virus (EBV)-encoded small RNA (EBER)+ cells in only two lesions. PCR analyses demonstrated that there was no *Toxoplasma gondii* DNA in any of the eight lesions.

**Conclusions.** As suggested in RLHGF posttransplant, RLHGF arising after therapy for hematological malignancies is also a consequence of chronic stimulation in the setting of immune deregulation rather than various infectious agents. It is important for pathologists and clinicians to be aware of this type of lesion in diagnostic practice. Free full text available at [www.tumorionline.it](http://www.tumorionline.it)

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**Key words:** reactive lymphoid hyperplasia, giant follicles, hematological malignancy, polymerase chain reaction.

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