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Brief communications

Is immunohistochemistry mandatory in staging bone marrow trephine biopsy of patients with diffuse large B-cell lymphoma (DLBCL)

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Diffuse large B-cell lymphoma (DLBCL) can be found involving bone marrow in approximately 11-27% of cases[1]. Patterns of involvement are variable; these include diffuse pattern (lymphomatous cells diffusely infiltrating the marrow), interstitial pattern (i.e. small amount of lymphomatous cells scattered among hematopoietic cells), nodular pattern (lymphomatous cells forming aggregates in intertrabecular or paratrabecular area of the marrow), and intravascular or intrasinusoidal pattern (lymphomatous cells confining to the marrow sinusoids). Although the majority of DLBCL cases with marrow involvement frequently display diffuse and/or nodular patterns and can be detected by examination of Hematoxylin & Eosin (H&E) sections of bone marrow trephine biopsy only[2], there are exceptional cases that need immunohistochemistry as an ancillary test to detect the lymphomatous cells which might be easily missed if only H&E sections are examined. These include cases with 1) subtle interstitial involvement or occult involvement (examination only H&E sections results in up to 11% false negativity[3]; 2) intravascular or intrasinusoidal pattern of involvement; 3) accompanying hemophagocytic syndrome; 4) involvement by T-cell/histiocyte-rich large B-cell lymphoma (subtype of DLBCL) which has marrow pathology mimicking marrow involvement by classical Hodgkin lymphoma or peripheral T-cell lymphoma; 5) presence of large cells of undetermined lineage; and 6) discordant morphology of the lymphomatous cells between nodal/extranodal extramedullary site and marrow (found in up to 40% of DLBCLs[2]). According to *Talaulikar D et al*[4], additional immunohistochemical study in staging bone marrow trephine biopsy of patients with DLBCL fortifies predictive value of International Prognostic Index (IPI); this information is important for treatment planning. Therefore, it is recommended that additional immunohistochemistry should be performed in all staging bone marrow trephine biopsy specimens of patients with DLBCL. A panel of antibodies including CD3, CD20 and other B-cell markers (such as CD79a and/or Pax-5) is suggested for initial evaluation of marrow involvement by DLBCL[1, 4-5].

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