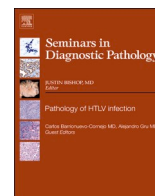


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Review article

Pathology of the spleen: INTRODUCTION

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The spleen is often a troublesome specimen for the surgical pathologist, mostly because experience with the range of normal and abnormal splenic histology is limited due to the relative rarity of splenectomies, particularly “diagnostic” splenectomies.¹ Due to this lack of familiarity, it is easy to understand why fragmented samples as those obtained by laparoscopic technique and above all needle core specimens may cause serious difficulties.

Few diseases arise primarily within the spleen and most conditions which are seen at this site represent secondary involvement by diseases originating elsewhere in the body. The role of the pathologist in most cases is to provide confirmation of the known, or suspected, diagnosis and to exclude unsuspected pathology.^{1,2}

The key to successful interpretation of splenic pathology lies in careful gross evaluation of the organ, including determining the weight of the specimen, and in assuring optimal tissue fixation. Because of the amount of blood in the spleen, thin sections are of particular importance. Special care needs to be exercised in isolating lymph nodes of the splenic hilum. Their examination can provide valuable additional information, particularly in the diagnosis of low-grade lymphoma. Obtaining adequate clinical information and close correlation with bone marrow findings and/or previously obtained biopsies (e.g. nodal) is often critical in the diagnostic characterization of disorders that involve the spleen, and this need cannot be overemphasized.

In this series of review articles, we aim to present a comprehensive account of those aspects of splenic pathology most likely to be encountered by the practicing pathologist with a particular focus on proliferations unique to the spleen.² We hope to provide key information for a systematic histopathologic analysis, which can be applied to achieve an accurate diagnosis of these specimens.

First, Genevieve Crane, Yen-Chun Liu and Amy Chadburn provide a review of splenic development and the architectural features that contribute to its important role in immunity. This will provide a framework for understanding the benign lymphoid proliferations that occur in a variety of conditions including infection, immune dysregulation and drug reactions.

Julia T Geyer, Sonam Prakash and Attilio Orazi review the pathology with clinical correlates of B-cell lymphoma occurring in the spleen. The relatively common splenic marginal zone lymphoma is given a detailed discussion. For all subtypes, particular emphasis is given to their pattern of splenic involvement and immunohistologic correlation.

Next, Osvaldo Padilla, Wayne Tam and Julia T Geyer present a practical review of the most common T-cell lymphomas involving the spleen. The authors provide a highly useful “practical” guide for handling such cases.

Sonam Prakash, Osvaldo Padilla and Wayne Tam next describe the splenic manifestations of myeloid, histiocytic and dendritic neoplasms. Although splenectomy is only rarely performed in these non-lymphoid neoplastic conditions, the pathologist may need to evaluate the spleen secondary to splenic rupture or palliative splenectomy to alleviate symptoms related to splenomegaly.

Next, Valentina FI Sangiorgio and Daniel A Arber review the most common vascular neoplasms and non-neoplastic vascular lesions of the spleen highlighting their main histologic features. Although the splenic hemangioma and peliosis usually do not cause diagnostic problems, littoral cell angioma, hemangioendothelioma, and angiosarcoma can be more troublesome to diagnose and thus those are discussed in more details.

Finally, the two same authors review the pathology of the non-hematopoietic neoplastic and pseudoneoplastic lesions of the spleen.

We sincerely hope that the reader will find the diagnostic approaches of splenic diseases included in this update on splenic pathology informative and useful in everyday practice.

References

- 1 Neiman RS, Orazi A. *Disorders of the spleen*. 2nd Edition. Philadelphia, PA: W.B. Saunders; 1999.
- 2 Orazi A, Arber DA. Spleen: normal architecture and neoplastic and non-neoplastic lesions. In: Jaffe ES, Arber DA, Campo E, Harris NL, Quintanilla-Martinez L, eds. *Hematopathology*. 2nd Edition. Philadelphia, PA: Elsevier; 2017.

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