

Abstract

Introduction and objectives

Lymph node (LN) biopsies with necrotizing lesions are one of the challenging diagnoses in lymph node pathology, as these could occur in both benign and malignant lesions, sometimes obscuring the underlying disease. The aim of this study was to identify the clinico-pathological features of cases diagnosed as necrotizing lymphadenitis (with typical and atypical features) and lymphomas with necrotizing lymphadenitis pattern of necrosis and compare the features in a Sri Lankan cohort of patients.

Method

Sixty-four consecutive lymph node biopsies received in 2018 and 2019, histologically containing necrotizing areas with karyorrhectic debris with foci of coagulative necrosis of any size, were assessed. LNs with necrotizing granulomatous inflammation, suppurative inflammation and LNs with deposits from carcinomas were excluded. Histopathological features of the LNs were examined. Immunohistochemical markers including CD3, CD20 and additional immunostains necessary for the diagnosis were done. Three groups were identified: Group A) Classic Kikuchi Necrotizing Lymphadenitis(KNL), Group B) KNL with atypical features, Group C) Other lesions (predominantly lymphomas) with necrotizing lesions mimicking KNL.

Results

There were 18, 11 and 35 cases in group A, group B and group C respectively. Commonest subgroup in group C was Diffuse Large B-Cell Lymphoma (45.8%). The overall LN architecture was preserved in all cases of classic and atypical KNL except one that had undergone extensive necrosis. Therefore, in cases with atypical features like sheets of blastoid cells, extensive necrosis and foamy histiocytes, CD3 and CD20 immunostains are useful to highlight the preserved architecture, if it is obscured by necrosis. All classic and atypical KNL cases showed paracortical involvement by necrosis at least focally, but in all mimics necrosis was irregular and spotty. Necrosis with only karyorrhectic debris was the commonest pattern in groups A and C but most cases of group B showed both coagulative necrosis and karyorrhectic debris. Therefore, the presence of coagulative necrosis does not exclude KNL. Severity of necrosis was more in classic or atypical KNL than in mimics. (Grade III(51-75%), III and IV(76-100%) equally and I(1-25%) respectively). In most cases of classic or atypical KNL, a mixed population of histiocytes, follicular dendritic cells and blastoid cells were seen in variable amounts while the latter were seen more in atypical forms of KNL. Clinically classic KNL was seen in younger patients than the other groups.

Discussion and Conclusions

While in most classic and atypical KNL, necrosis was paracortical and extensive, in mimics, necrosis was irregular and mostly focal. In a Thai study done in 2006, majority of KNL cases showed grade III necrosis which is compatible with our findings and studies with larger samples are warranted for further confirmation.

For an accurate diagnosis, careful H&E examination is essential and features like architecture of the lymph node, distribution of necrosis, type and severity of necrosis and careful assessment of cell populations in the viable regions are important. Immunostains such as CD3 and CD20 can contribute to the diagnosis in difficult cases.