AN INTERESTING CASE SERIES OF FLORID GRANULOMATOUS REACTION IN HODGKIN’S LYMPHOMA

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ABSTRACT

In India granulomatous lymphadenitis is a common diagnosis given in fine aspiration cytology of cases presenting with lymphadenopathy. Tuberculosis is one of the most common causes for this condition. But we need to be aware that some malignant conditions elicit a strong granulomatous inflammation, rarely in a manner that they mask the malignant component. A report on 2 rare cases, with such granulomatous reaction in Hodgkin lymphoma is being presented here.

KEYWORDS: Granulomatous lymphadenitis, granuloma, lymphoma, tuberculous granuloma.

INTRODUCTION

Granulomatous reaction in lymph nodes is a common presentation in India. It can present as a necrotizing or a non-necrotizing variant. The most common cause of necrotizing granulomatous inflammation is tuberculosis (TB). Also in non-necrotizing granulomatous inflammation, the differential diagnosis includes tuberculosis (TB) as well and other diseases such as sarcoidosis, cat scratch disease. However, we need to be aware of lymphoproliferative disorders that are rarely associated with granulomatous inflammation, in which an extensive microscopic examination is required to reveal the malignant component.

CASE SERIES REPORT

CASE 1

A 21 year female presented with cervical lymphadenopathy with history of loss of weight. FNAC was done & was advised for excision biopsy to rule out lymphoproliferative disorder.
Excisional biopsy was performed which showed granulomatous lesions with necrosis. A tentative diagnosis of granulomatous lymphadenitis was made, and she was started on treatment. However, there was no clinical improvement. She presented again within one month, to our surgery Out-Patient department and was advised for a second FNAC study which showed sheets of lymphocytes, plasma cells, fibroblast, histiocytes & large bi-nucleated mirror image cells. We reviewed the previous excised specimen & a detailed histopathology examination revealed marked granulomatous reaction and there were scattered large cells with few classic Reed-Sternberg cells. Immunohistochemistry confirmed the diagnosis.

**CASE2**

17 year male with history of swelling in the left neck for past 3 months, associated with evening rise of temperature low grade in nature. Ultra-sonogram of neck revealed multiple cervical lymphadenitis. FNAC was done which showed mature & reactive lymphocytes and histiocytes in a serofibrinous background. Occasional polymorphs, eosinophils and histiocytic giant cells were also seen which showed features suggesting reactive lymphadenitis. Excisional biopsy was done for further evaluation, histopathology showed effacement of lymph node architecture with multiple nodules separated by thick fibrous strand, theses nodules were composed of polymorphous population of inflammatory cells, predominantly histiocytes, lymphocytes, plasma cells & eosinophils. Among this infiltrate large cells with vesicular nucleus and prominent eosinophilic inclusion like nucleoli (Mono nuclear Reed Sternberg cells), occasional lacunar cells were also noted. Diagnosis was confirmed by immunohistochemistry.
CASE:
Fig 1.1: FNAC OF LYMPH NODE SHOWING MARKED GRANULOMATOUS REACTION WITH ATYPICAL CELLS (400X)
Fig 1.2: CYTOLOGICAL SMEAR SHOWING PLENTY OF PLASMA CELLS. (400X)
Fig 1.3: CYTOLOGICAL SMEAR SHOWING HYSTIOCYTIC PHAGOCYTOSIS. (400X)
Fig 1.4: SMEAR SHOWING A CLASSICAL BINUCLEATED LARGE CELL (REED-STERNBERG CELL). [400X]
Fig 1.5: HISTOPATHOLOGY SECTION SHOWING SCATTERED CLASSICAL REED-SERNBERG CELLS. (400X)
Fig 1.6: IHC SHOWING POSITIVITY FOR HODGKIN’S LYMPHOMA. (100x)
CASE: 2
Fig 2.1: FNAC SHOWING A CLASSICAL BINUCLEATED LARGE CELL (REED-STERNBERG CELL) [400X]
Fig 2.2: SMEAR SHOWS LARGE ATYPICAL CELLS (400X)
Fig 2.3 & Fig 2.4: SMEAR SHOWS PLENTY OF PLASMA CELLS. (400X)

DISCUSSION
Granuloma of lymph nodes is seen in a large number of diseases. It is seen in various types of infections, foreign body reactions, aberrant immune reactions and secondary responses in lymph nodes draining carcinoma.\textsuperscript{[1,6]} It is also seen in some cases of lymphomas.\textsuperscript{[3,4,5]}

\textit{Tuberculosis}
Tuberculous lymphadenitis is caused by \textit{Mycobacterium tuberculosis}. 90\% of the cases are usually seen in cervical lymph nodes. In the initial phase it presents as hard lesion followed by gradual infiltration of inflammatory cells. Followed by, formation of abscess and enlargement of the nodes that gradually turn into \textit{caseous necrosis}. The histology shows central area of caseous necrosis surrounded by epithelioid cells & Langhan giant cells. Externally surrounded by lymphocytes & fibroblasts but plasma cells are usually absent. It is usually distinguished from sarcoidosis by presence of caseous necrosis.

\textit{Sarcoidosis}
Meaty, chunk like lesions usually affecting the pulmonary hilar lymph nodes, showing a non caseating epithelioid granuloma. Histologically follicular hyperplasia & sinus histiocytosis appear in the early stages. Small epithelioid cell granulomas appear in the cortex after there is a decrease of histiocytes. In the fully developed stage the granuloma is well demarcated composed of epithelioid cells with scattered multinucleated giant cells. In the late stages there is fibrosis & hyalinization. Neutrophils are usually absent. The distinguishing features of granuloma of sarcoidosis from tuberculosis, fungal infection, Silicosis & Hodgkin’s lymphoma are the well demarcation & lack of central necrosis.
**Cat Scratch Disease**

Cat Scratch Disease (CST) is caused by infective gram negative organism *Bartonella henselae/ B. Quintana*. The lymph nodes usually affected are axillary, inguinal & cervical nodes. Swelling is seen up to 3cm in size. Histologically it presents in 3 phases,

i) Early phase (nonspecific reaction), this shows hyperplasia & enlargement of the lymph node follicles.

ii) Intermittent phase (microabscess formation), shows microabscess with central necrosis & without epithelioid granuloma.

iii) Late phase (granulomatous abscess), shows consolidation of microabscess leading to formation of an irregular shaped large abscess, the capsule shows marked inflammation or fibrosis.

Rarely, the diagnosis of a lymphoma may be obscured by the presence of extensive granulomatous lesions. Lymphomas associated with marked granulomatous reaction are well documented in the literature including association with primary presentation or in relapse.[7]

Malignant lymphomas that mimic or are associated with epithelioid granulomas are a dilemma in cytological materials. Khurana et al.[8] described 6 malignant cases who presented with granulomatous reaction on cytology. A prognostic relevance of the granulomatous reaction in Hodgkin’s lymphoma is not clear.[9]

In our study 2 cases are discussed, in both the cases the patients presented with cervical lymphadenopathy and was found to have Hodgkin’s lymphoma associated with a granulomatous reaction. These cases show us the importance that needs to be given on a very careful microscopic evaluation of the lymph nodes presenting with granulomatous reactions, in view to search for large atypical cells that may represent malignant cells.

**CONCLUSION**

Our findings confirmed the diagnosis of Hodgkin’s lymphoma with granulomatous reaction that almost masked the malignant component. This reveals out the value of a detailed histopathological study in all granulomatous reactions, in view of highlighting the malignancy if present.
REFERENCE