International Surgery Journal
Srujana S et al. Int Surg J. 2015 Feb;2(1):98-101
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902
DOI: 10.5455/2349-2902.isj20150221

Case Report

A rare case of lymph node infarction

Shyamala Srujana*, Narala Srivani, Lanka Krishna, Odapally Shravan Kumar, Syed SS. Quadri

Department of Pathology, Gandhi Medical College, Hyderabad, Telangana, India

Received: 20 November 2014
Accepted: 9 December 2014

***Correspondence:**
Dr. Shyamala Srujana,
E-mail: pvsrujana@gmail.com

ABSTRACT

Lymph node infarction refers to a syndrome of coagulative necrosis of lymph node that is frequently associated with concurrent or subsequent development of malignant lymphoma. Lymph node infarction is a very rare entity among the various pathologies involving the lymph node. We hereby present a case report of lymph node infarction in a 40 year old female patient who presented with sub mandibular swelling.

Keywords: Lymph node infarction, Submandibular swelling, Coagulative necrosis

INTRODUCTION

Lymph node infarction is a very rare occurrence as it has abundant vascularity and well developed anastomosis of blood vessels. Only limited number of cases have been previously reported in the literature.[1-3] In most of these cases, occlusive vascular thrombosis affected hilar or intra nodal veins. Infarction of Lymph node can be due to various non-neoplastic and neoplastic causes.[4-6] It may also follow fine needle aspiration cytology procedure.[7]

However the etiology of lymph node infarction may be difficult or impossible to determine on histopathological examination.[8]

CASE REPORT

A 40 years old female patient presented with a swelling in the submandibular region of 6 months duration. History of recent increase in size was noted. There was no history of pain or fever. History of trauma with the head of her baby in the submandibular region one year ago was significant. There were no other significant co morbidities. Physical examination revealed a swelling of size 8x6 cm in the sub mandibular region, which was mobile and non-tender. No signs of local inflammation were observed. Routine investigations including biochemical, serological testing for HIV, HBSAg and hematological tests were within normal limits.

Ultrasonographic examination of the local area showed hematoma within the muscle planes of sub mandibular region along with evidence of a well-defined hyperechoic lesion of about 2x2 cm in size.

FNAC revealed few lymphocytes admixed with occasional macrophage and cell debris against a necrotic back ground. A diagnosis of necrotizing lymphadenitis was made. Subsequently lymph node excision biopsy was done and sent for histopathological examination.

Gross examination

Received two grey brown soft tissue masses, largest measuring 1.5x1.5 cm and other bit measuring 0.5x0.5 cm. Cut section of larger mass showed gray brown necrotic area and of the other node, greys white.

Histopathological examination of the smaller lymphnode showed features of reactive follicular hyperplasia.

Sections studied from the larger lymphnode mass showed total effacement of lymphnode architecture by large areas of infarction. Thin peripheral rim of viable tissue composed predominantly of lymphocytes admixed with few plasma cells were seen. The infarcted area showed preservation of cellular outlines. There was no evidence of histiocytes, epitheloid cells, granulomas or other atypical cells.

A diagnosis of Lymph node infarction was made.

Figure 1: Gross specimen of lymph node.

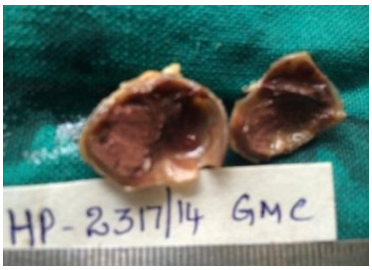

Figure 2: Cut section showing necrotic area.

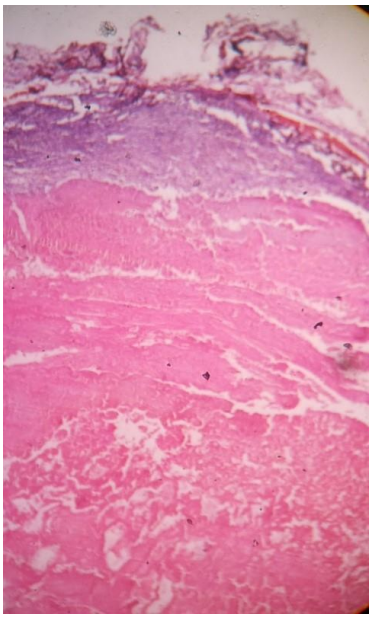

Figure 3: H&E: 40x showing necrosis with viable peripheral rim of lymphoid tissue.

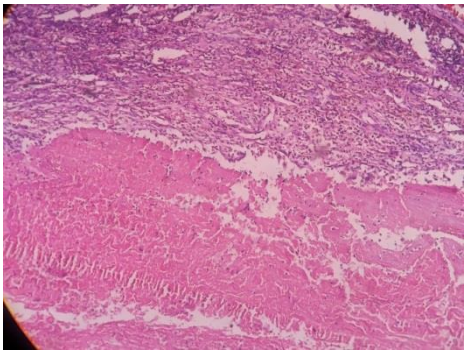

Figure 4: H&E: 10x showing coagulative necrosis with cellular outlines.

DISCUSSION

Lymph node infarction is a very uncommon phenomenon reported in the literature. Lymph nodes are well vascularised and therefore infarction is uncommon. It is associated with various non-neoplastic and neoplastic conditions.

Non-neoplastic conditions associated with infarction are polyarteritis nodosa, viral infections (infectious mononucleosis, parvovirus B19), cholesterol atheromatous embolism, thrombosis, gold injections, intestinal volvulus, mononeuritis multiplex, fine needle aspiration cytology and post mediastinoscopy procedures, and finally may be idiopathic.[9-13] Hemorrhagic infarction of hilar lymph nodes has also been reported recently in association with heart-lung transplantation.[14]

Neoplastic lesions most commonly associated with infarction are malignant lymphoma and metastatic malignancy.[15] Massive infarction of the lymph node should raise the suspicion of lymphoma and must be thoroughly investigated.

The type of coagulative necrosis indicates ischemic nature of the necrosis. In superficial lymph nodes arteries and veins enter the node through the hilar region. This vascular distribution explains the sparing of subcapsular lymphoid tissue in lymph node infarction. In contrast, deep lymph nodes which lack a hilum show more extensive necrosis. The entire nodal parenchyma is necrotic and strongly eosinophilic ghosts of lymphocytes are seen. The reticulin network is preserved as shown by the silver staining. Early acute inflammatory reaction gradually changes to a chronic inflammatory infiltrate in which lymphocytes are the predominant cell type. The zone of granulation tissue containing numerous newly formed capillaries is closely opposed to the necrotic tissue.[8]

There is little published data on the role of IHC in the evaluation of lymph node infarction. It is widely believed that necrotic tissue is not suitable for immunophenotypic studies because of loss of antigenicity and non-specific staining.[16]

CONCLUSION

We report a rare case of lymph node infarction associated with trauma. However any infarcted lymph node should be eyed with suspicion especially when it is enlarged in size. Multiple deeper sections & biopsy of other lymph nodes may be very useful to unearth the underlying cause and finally if no underlying cause is found, the patient should be followed up for a minimum period of 2 years.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Strickler JG, Warnke RA, Weiss LM. Necrosis in lymph nodes. Pathol Annu. 1987;22(PT 2):253-82.
2. American Society for clinical pathology (ASCP). Annual meeting: Abstract-142. Presented, October 20, 2011. Available at: http://www.ascp.org/2011annualmeeting/materials.html.
3. Rosai. Lymph nodes. In: Juan Rosai, eds. Ackerman's Surgical Pathology. 8th ed. St. Lucie: Mosby; 2006: 1739-1741.
4. Johnson LB, Pasumarthy A, Sara Volatz. Parvovirus B19 infection presenting with necrotizing lymphadenitis. Am J Med. 2003;114 (4):340-1.
5. Davies JD, Stansfield AG. Spontaneous infarction of superficial lymph nodes. J Clin Pathol. 1972;25:689-96.
6. Cleary KR, Osborne BM, Butler JJ. Lymph node infarction foreshadowing malignant lymphoma. Am J Surg Pathol. 1982;6:435-42.
7. Tsang WY, Chan JK. Spectrum of morphological changes in lymph nodes attributable to fine needle aspiration. Hum Pathol. 1992;23(5):562-5.
8. Iochim L, Jefferey L, Harry Medeiros. Lymphadenopathy. In: Iochim L, Jefferey L, Harry Medeiros, eds. Ioachim's Lymph node Pathology. 4th ed. Philadelphia: Lippincott Williams & Wilkins; 2008: 259-262.
9. Shah KH, Kisilevsky R. Infarction of the lymph node: a cause of a palisading macrophage reaction mimicking necrotizing granuloma. Hum Pathol. 1978;9(5):597-9.
10. Roberts C, Batstone PJ, Goodlad JR. Lymphadenopathy and lymph node infarction as a result of gold injection. J Clin Pathol. 2001;54(7):562-4.
11. Mahy NJ, Davies JD. Ishemic changes in human mesenteric lymph nodes. J Pathol. 1984;144(4):257-67.
12. Miller RR, Nelems B. Mediastinal lymph node necrosis: a newly recognized complication of mediastinoscopy. Am Thora Surg. 1989;48(2):247-50.
13. Watts JC, Sebek BA, McHenry MC, Esselstyn CB Jr. Idiopathic infarction of intra-abdominal lymph nodes. A cause of fever of unknown origin. Am J Clin Pathol. 1980;74(5):687-90.
14. Ren H, Hruban RH, Baumgartner WA, Reitz BA, Baker RR, Hutchison's BM. Hemorrhagic infarction of hilar lymph node associated with combined heart lung transplantation. J Thora Cardiovasc Surg. 1990;99(5):861-7.
15. Maurer R, Schmid U, Davie JD, Mahy J, Stansfield AG, Lukes RJ. Lymph node infarction and malignant lymphoma: a multicentre survey of European, English, and American cases. Histopathology. 1986;10:571-88.
16. Norton AJ, Ramsay AD, Isaacson PG. Antigen preservation in infracted lymphoid tissue: a novel approach to the infracted lymph node using monoclonal antibodies effective in routinely processed tissues. Am J Surg Pathol. 1988;12:759-67.

DOI: 10.5455/2349-2902.isj20150221
Cite this article as: Srujana S, Srivani N, Krishna L, Kumar OS, Quadri SSS. A rare case of lymph node infarction. Int Surg J 2015;2:98-101.