

# Vascular Transformation of Lymph Node Sinuses: A Rare Case Report.

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## ABSTRACT

Vascular sinus transformation of lymph node sinuses is a benign vasoproliferative lesion in which lymph node sinuses become converted to anastomosed endothelial-lined channels. Vascular transformation of sinuses is typically identified incidentally in lymph nodes excised for cancer staging. These lesions display histologic features ranging from minimal changes associated with vasodilation to vascular proliferative lesions resembling Kaposi's sarcoma.

**Keywords:** Sinus, vasoproliferative, endothelial, Kaposi ,sarcoma.

## INTRODUCTION

Vascular sinus transformation (VST) of lymph nodes is characterized by the intrasinusoidal proliferation of endothelial cells forming a system of anastomosed channels filled with blood along with intrasinusoidal fibrous reaction. The endothelial nature of the proliferating cells is demonstrated by the presence of factor VIII related antigen.<sup>[1]</sup> Vascular transformation of lymph node sinuses is uncommon condition and few cases have been reported.<sup>[2]</sup> Nonneoplastic vascular lesions in lymph nodes have been infrequently reported.<sup>[3]</sup> The lesion is believed to arise secondary to occlusion of efferent lymphatics or sluggish venous blood flow due to various conditions as thrombotic obstruction, heart failure, or other conditions leading to venous stasis. Vascular transformation of sinuses most commonly affects intra-abdominal lymph nodes and other lymph node groups can be involved include nodes in the axillary, inguinal, cervical, supraclavicular, and mediastinal regions.<sup>[4-5]</sup>

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## CASE REPORT

### Case summary

Swelling on the left lower limb noticed since 2 months in a 30 year old male patient presented to the surgery OPD . It started increasing in size since few

months and was associated with pain. Patient is chronic alcoholic and chronic smoker. A clinical diagnosis of left varicose veins was made and Trendelenburg's operation with perforator ligature under spinal anaesthesia was done along with removal of left inguinal lymph nodes and lymph nodes were received in department of pathology.

Grossly: The soft tissue piece measured 2x2 cm in size, brown black in colour with hard consistency.

Microscopy: Sections showed lymphoid tissue with capsule. Underneath the capsule there was subcapsular sinus. Excessive lymphoid proliferation with prominent germinal centres were seen in the cortical area with large no. of proliferating endothelial lined vascular channels containing blood.(arrow) [Figure 1,2 & 3]

Histopathological features are suggestive of reactive hyperplasia with vascular transformation of lymph node sinuses.

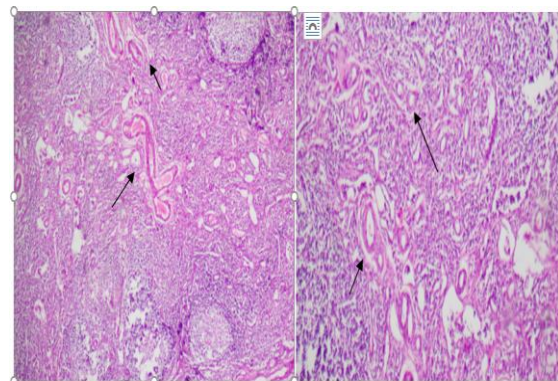
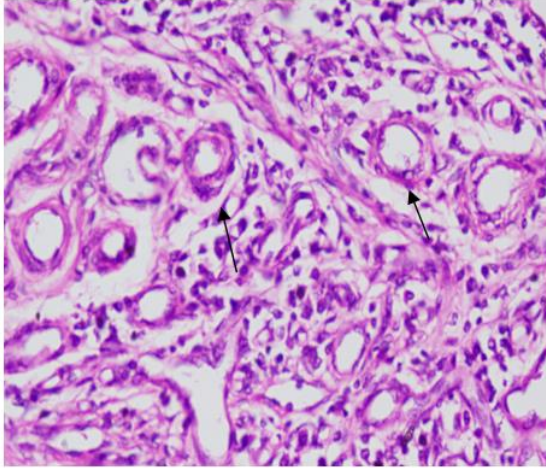


Figure 1: 4X, Figure 2: 10X.



**Figure 3: 40X.**

**Figure 1, 2 & 3: Photomicrographs (H&E 4X, 10X and 40X) showing lymphoid tissue along with vascular channels containing blood.**

## DISCUSSION

Vascular sinus transformation of lymph node sinuses is a benign vasoproliferative lesion in which lymph node sinuses become converted to anastomosing endothelial-lined channels. Vascular transformation of sinuses is typically identified incidentally in lymph nodes excised for cancer staging and obstruction in venous flow as in case of varicose vein.<sup>[1]</sup> Involvement of lymph node groups include nodes in the axillary, inguinal, cervical, supraclavicular, and mediastinal regions.<sup>[4-5]</sup> In our rare case of vascular transformation of lymph node sinuses presenting only as inguinal lymphadenopathy, without an obvious cause of lymphovascular obstruction.<sup>[6]</sup> The lesion is believed to arise secondary to occlusion of efferent lymphatic and/or sluggish venous blood flow as in our case extranodal obstruction of venous blood seen in inguinal lymph node observed during Trendelenburg's operation for varicose veins.

## CONCLUSION

VST is usually observed in association with a thrombosis of lymph node veins. These lesions are believed to be rare and display histological features ranging from minimal changes associated with vasodilatation to vascular proliferative lesions resembling Kaposi's sarcoma. The spectrum of histological features observed in these cases appears to be the result of the extent and duration of regional lymphatic and/or venous obstruction.

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