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Editorial

Purge and Ouster-Whipple Disease Lymphadenitis

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Lymphadenitis arising due to Whipple's disease is exceptionally observed and occurs on account of infection with Tropheryma whipplei. The microorganism is commonly encountered within farmers and outdoor employees immersed in soil and sewage work. However, animals appear to lack the bacterial congregation.

Clinically, symptoms such as diarrhoea, malabsorption, weight loss, pyrexia and arthralgia may ensue. Occasionally, cardiac symptoms or involvement of central nervous system (CNS) may be observed. The bacteria may engender significant enlargement of mesenteric and periaortic lymph nodes wherein enlargement of peripheral lymph nodes appears as a preliminary symptom [1,2].

Characteristically, Tropheryma whipplei infection represents with antecedent, frequently discerned arthralgia (~90%), weight loss, diarrhoea and abdominal pain [1,2].

Whipple's disease may represent with varied multi-organ manifestations as endocarditis, lymphadenopathy, cough, pleural effusion or malabsorption syndrome [1,2].

Endocarditis with triple valve involvement as aortic valve, mitral valve or tricuspid valve occurs due to Tropheryma whipplei infection which is non discernible by culture. Aortic vegetation may concur with involvement of aortic, tricuspid and mitral valves [3,4].

Tropheryma. whipplei infection may preponderantly represent with isolated endocarditis in the absence of various clinical manifestations. Up to 60% subjects with Whipple's disease may represent with lymphadenopathy, thereby necessitating demarcation from gastrointestinal lymphoma. Mesenteric and pulmonary hilar or mediastinal lymphadenopathy is commonly observed.

Retroperitoneal and peripheral, axillary or inguinal lymphadenopathy may emerge as a singular manifestation [3,4].

Whipple's disease with pulmonary involvement may induce chronic cough. Subjects with Whipple's disease may represent with weight loss, decimated serum albumin, iron deficiency anaemia, vitamin and mineral deficiencies as vitamin D deficiency and zinc deficiency secondary to malabsorption [3,4].

Upon microscopy, lymph node architecture is obscured and riddled with disseminated, poorly defined lipo-granulomas. Lymph node sinuses are pervaded with macrophages impregnated with foamy cytoplasm. Macrophages are permeated with bacilli which may be highlighted by periodic acid Schiff's (PAS+) stain with diastase resistance. Ultrastructural examination expounds rod-like bacilli [3,4].

Lugano classification of staging non Hodgkin's lymphoma is denominated as

- Stage I is described as
  - Lymphoma confined to singular lymph node region (I)
  - Lymphoma incriminates singular extra-lymphatic organ or extra-nodal site whereas lymph node involvement is absent (IE)

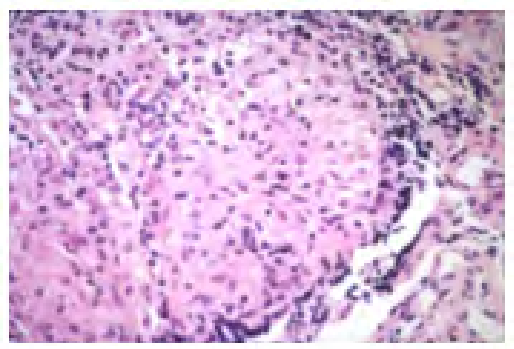

Figure 1: Whipple's disease lymphadenitis demonstrating partially effaced lymph node architecture, disseminated lipo-granulomas and lymphatic sinuses invaded with macrophages permeated with foamy cytoplasm [10].

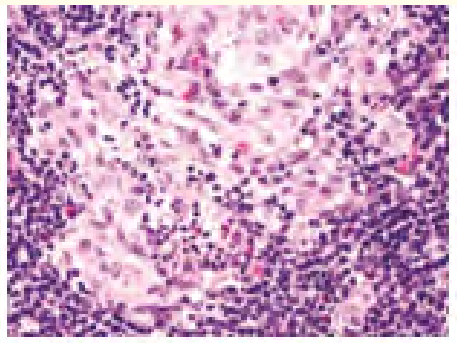

Figure 2: Whipple's disease lymphadenitis delineating partially effaced lymph node architecture, disseminated lipo-granulomas and lymphatic sinuses pervaded with macrophages imbued with foamy cytoplasm [11].

Nodal lymphomas
Angioimmunoblastic T cell lymphoma
Follicular T cell lymphoma
Nodal peripheral T cell lymphoma with follicular helper T cell (TFH) phenotype
Extra-nodal lymphomas
Cutaneous CD4+ small/medium T cell lymphoproliferative disorder

Table: World Health Organization (2017) classification of T follicular helper cell lymphomas [5,6].

- Stage II is described as
  - Lymphoma incriminating ≥2 lymph node regions on one side of diaphragm (II)
  - Lymphoma incriminates singular organ and regional lymph nodes along with or absence of neoplasm confined to diverse lymph node regions on one side of diaphragm (IIE)
- Stage III where lymphoma incriminates lymph node regions on opposite sides of diaphragm (III)
- Stage IV where lymphoma disseminates to diverse extra-lymphatic organs as bone marrow, hepatic or pulmonary parenchyma along with or devoid of incrimination of various lymph node groups (IV) [5,6].

Lymphadenitis associated with Whipple's disease occurring due to Tropheryma whipplei infection requires segregation from lesions of Fabry disease. Whipple's disease may simulate malignant or lymphoproliferative disorder [7,8].

Demarcation from various diseases engendering malabsorption may be necessitated [7,8].

Upon gram's stain, the organism appears as gram positive, Significant and massive lymph node involvement is encountered wherein bacterial aggregates impregnated within macrophages may be aptly delineated with periodic acid Schiff's (PAS+) stain with diastase resistance [7,8].

Ziehl Neelsen stain appears inadequate for detecting the bacterium. Immunostaining relevant to the bacteria may be employed for disease ascertainment.

Culture of the microorganism may be challenging [8,9].

Surgical tissue sampling obtained from implicated lymph node demonstrates macrophages impregnated with substance highlighted with periodic acid Schiff's (PAS+) stain [8,9].

Polymerase chain reaction (PCR) may be advantageously adopted to isolate the organism and diagnostic confirmation [8,9].

Radiographic imaging may frequently depict pulmonary nodules, pleural effusion, interstitial pulmonary alterations or patchy pulmonary infiltrates.

The condition may be suitably managed with antibiotics as intravenous penicillin, streptomycin or third generalization cephalosporin. Additionally, cotrimoxazone may be administered [8,9].

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10. Image 1 Courtesy: Science direct.

11. Image 1 Courtesy: Pathology outlines.