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Editorial

Axle and Stem-Mycobacterial Spindle Cell Pseudotumour

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Mycobacterial spindle cell pseudotumor is an exceptionally encountered, benign neoplasm composed of spindle shaped cells. The infrequently discerned disease is engendered due to a response towards mycobacterial infection. Initially scripted by Wood., *et al*. in 1985, cutaneous mycobacterial spindle cell pseudotumour may simultaneously arise within several sites.

Of inflammatory histogenesis, mycobacterial spindle cell pseudotumour commonly arises within subjects infected with human immunodeficiency virus (HIV), infants following BCG vaccination and post-transplant recipients.

Neoplasm is preponderantly comprised of spindle shaped cells which are pre-eminently macrophages impregnated with significant quantities of *Mycobacteria*. The innumerable intracellular organisms may be suitably detected by intraoperative touch imprint preparations.

Demonstrating a male predominance with male to female proportion of ~5:1, an estimated 50% subjects demonstrate infection with human immunodeficiency virus (HIV) infection [1,2].

Commonly, tumefaction is confined to lymph node, various cutaneous sites and soft tissue. *Mycobacterium avium* complex is a commonly encountered (~47%) mycobacterium engendering the lesions followed in frequency by *Mycobacterium tuberculosis* complex (~16%).

Mycobacterial spindle cell pseudotumour may occur due to a dysregulated immune response with consequent proliferation of spindle shaped cells. Therefore, conditions such as infection with human immunodeficiency virus (HIV) with accompanying immunocompromised state appear to contribute to disease emergence [1,2].

Tumefaction is associated with clinical symptoms as progressive swelling of the digit, configuration of nodules and linear lymph node enlargement. Inflammatory genesis of the neoplasm may be confirmed by flow cytometry and diverse staining techniques.

Cytological examination depicts proliferation of spindle shaped cells simulating Kaposi's sarcoma. An absence of foamy histiocytes is encountered [2,3].

Upon microscopy, lymph nodes display partial or comprehensive effacement of lymph node architecture. The dermis may represent with configuration of tumour nodules [2,3].

Tumefaction is comprised of an admixture of inflammatory cells as lymphocytes, histiocytes and focal aggregates of neutrophils. Neoplasm depicts a distinct storiform pattern constituted by bland, spindle shaped cells. Few cells are vacuolated [2,3].

Diffuse large B cell lymphoma (DLBCL) not otherwise specified (NOS): 1. Germinal centre B cell type 2. Activated B cell type
T cell/histiocyte rich large B cell lymphoma
Primary DLBCL of central nervous system
Epstein Barr virus (EBV+) DLBCL NOS
EBV+ mucocutaneous ulcer
DLBCL associated with chronic inflammation
Lymphomatoid granulomatosis
Primary mediastinal/ thymic large B cell lymphoma
Intravascular large B cell lymphoma
ALK+ large B cell lymphoma
Plasmablastic lymphoma
Primary effusion lymphoma
Human herpes virus 8 (HHV8+) DLBCL NOS
Burkitt lymphoma
Burkitt-like lymphoma with 11 q aberration
High grade B cell lymphoma with MYC and BCL2 and/or BCL6 rearrangements
High grade B cell lymphoma NOS
B cell lymphoma unclassifiable with features intermediate between DLBCL and classic Hodgkin's lymphoma

Table: *World health organization classification of mature large B cell lymphoid neoplasms (2017) [4,5].*

Tumour parenchyma is traversed by innumerable vascular articulations layered by plump endothelial cells, plasma cells and small lymphocytes. Multinucleated tumour giant cells or foamy histiocytes are absent. Alternatively, configuring as a spindle cell neoplasm, tumour parenchyma may be riddled with foamy macrophages, multinucleated cells, small lymphocytes and occasional giant cells.

Superimposed epidermis delineates pseudo-epitheliomatous hyperplasia [6,7].

Spindle shaped cells configuring mycobacterial spindle cell pseudotumour appear immune reactive to CD45, CD68, S100 protein, desmin and human leukocyte antigen DR (HLA-DR) [7,8].

Upon staining with Ziehl-Neelsen stain, innumerable acid fast bacilli are discerned. Additionally, acid fast bacilli (AFB) stain demonstrates presence of innumerable *Mycobacterium* [7,8].

Grocott methenamine silver (GMS) and Gram's stain appear inconclusive. Diverse spindle shaped cell neoplasms may appear immune reactive to AE1/AE3, SOX10, CD30, CD34, S100 protein and CD10. Lymphoid and histiocytic cell exudate may be confirmed by immunoreactivity to CD68, CD3, and CD20 stains [8,9].

Mycobacterial spindle cell pseudotumour requires segregation from neoplasms as Kaposi's sarcoma, smooth muscle tumour or soft tissue sarcoma [8,9].

The neoplasm may be appropriately managed by antimycobacterial therapy, surgical extermination of the neoplasm or antimycobacterial agents in combination with surgical intervention. Antimycobacterial therapy is associated with superior therapeutic response.

Additionally, antibiotic or antiretroviral therapy for human immunodeficiency virus (HIV) infection may be advantageously adopted. Notwithstanding, an absence of therapy may be beneficial and recommended [8,9].

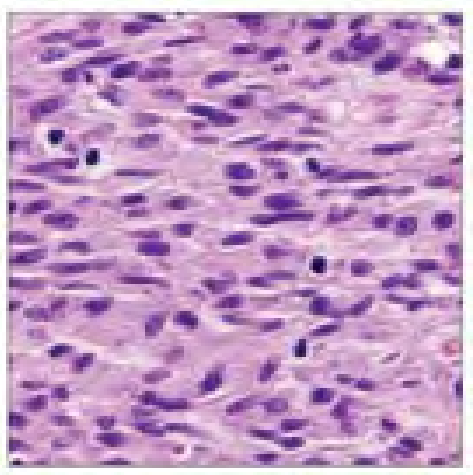

Figure 1: *Mycobacterial spindle cell pseudotumour delineating spindle shaped cells commingled with inflammatory cells as lymphocytes, macrophages, plasma cells and vascular articulations layered by plump endothelial cells [10].*

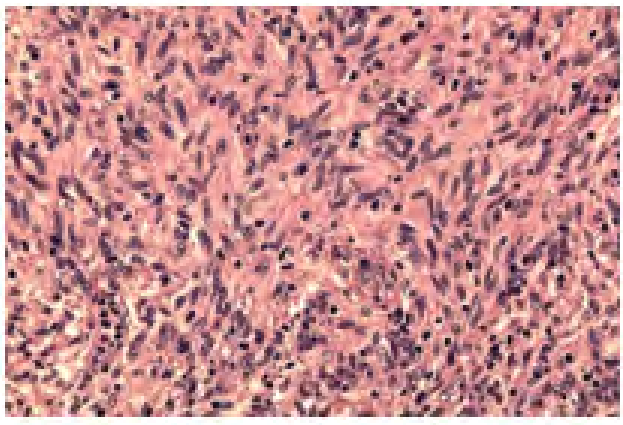

Figure 2: *Mycobacterial spindle cell pseudotumour enunciating spindle shaped cells intermingled with inflammatory cells as lymphocytes, macrophages, plasma cells and vascular articulations layered by plump endothelial cells [11].*

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10. Image 1 Courtesy: Basic medical key.

11. Image 2 Courtesy: *BMJ Case Reports*.

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