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Editorial

Amassed and Accrued-Silicone Lymphadenopathy

Anubha Bajaj*

Department of Histopathology, Panjab University, A.B. Diagnostics, India

***Corresponding Author**: Anubha Bajaj, Department of Histopathology, Panjab University, A.B. Diagnostics, India.

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Silicone lymphadenopathy emerges as an exceptionally observed. Enlargement of regional lymph nodes induced by amalgamation of silicone particles traversed from tributary organs into lymph node parenchyma. The condition may arise as an incidental feature or may engender a painful and enlarged lymph node. Silicone lymphadenopathy may be concurrent with granulomatous inflammation of the lymph node. Silicone associated lymphadenopathy is commonly confined to lymph nodes draining the implant site, especially axillary lymph nodes.

Silicone associated lymphadenopathy is preponderantly associated with employed implants, particularly with procedures as augmentation mammoplasty and joint prostheses. Silicone fragments secreted into tissue is accompanied by migration of silicone particles into distant sites through lymphatic or blood circulation. Accumulation of silicone into lymph nodes invokes a reaction and engenders silicone associated lymphadenopathy.

Silicone inducing lymph node enlargement is engendered due to rupture or exudation of implant. Alternatively, the implant may haemorrhage or secrete silicone micro-particles into blood or lymphatic circulation [1,2].

Clinically, silicone fragments are associated with enlarged lymph nodes. The lesion may be asymptomatic or engender pain [2,3].

Cytological smears depict aggregates of and singly disseminated, innumerable, multi-vacuolated histiocytic cells pervaded with clear, refractive, non-polarizable fragments of silicone. Aforesaid histiocytic cells appear disseminated within small, mature lymphocytes [2,3].

Grossly, lymph nodes appear enlarged and firm. Intensely infiltrated lymph nodes demonstrate distortion of lymph node architecture and nodal fibrosis. Pertinent macroscopic features appear absent [2,3].

Upon microscopy, lymph node depicts diffuse follicular hyperplasia. Histiocytic cells, particularly intra-sinusoidal cells are impregnated with vacuolated cytoplasm. Macrophages induce a foreign body subtype of granulomatous reaction admixed with several giant cells and vacant intracytoplasmic vacuoles. Giant cells are pervaded with refractive and non-birefringent silicone particles. Asteroid bodies may be observed. Silicone fragments obtained from orthopaedic devices are associated with a prominent granulomatous reaction commingled with aggregates of granular, yellowish, refractive material [3,4].

Silicone fragments associated with mammary prostheses display fine deposits within vacuolated cells [3,4].

Ultrastructural examination delineates electron-opaque, fragmented spicules or flakes of silicone [3,4].

Disorder	Alterations	Significance
T cell lymphomas of gastrointestinal tract	EATL	EATL type I associated with celiac disease
	MEITL	EATL type II non concurrent with celiac disease
	Indolent TLPD of gastrointestinal tract	Indolent clinical behaviour with occasional progression
Cutaneous T cell lymphoma	Primary cutaneous CD4+ small/medium TLPD	Indolent biological behaviour
	Primary cutaneous acral CD8+ T cell lymphoma	Indolent clinical behaviour, incriminating the ear
	Primary cutaneous **δγ**T cell lymphoma	Elimination of lymphomas with **δγ** T cell phenotype as MF or LyP.
EBV+ NK/T cell neoplasms	Systemic EBV+ T cell lymphoma of childhood	Lymphoma with aggressive clinical behaviour
	Hydroa vacciniforme-like lymphoproliferative disorder	Lymphoproliferative disorder reflecting wide spectrum of clinical behaviour

Table: *Modified WHO classification of primary extra-nodal and leukemic mature T cell neoplasms [5,6].*

WHO: World Health Organization; EATL: Enteropathy Associated T Cell Lymphoma; MEITL: Monomorphic Epitheliotropic Intestinal T Cell Lymphoma; MF: Mycosis Fungoides; LyP: Lymphomatoid Papulosis; TLPD: T Cell Lymphoproliferative Disorder; EBV: Epstein Barr Virus; NK: Natural Killer Cell; δγ: Gamma/Delta.

Macrophages impregnated with silicone appear immune reactive to CD44 and CD68 [7,8].

Silicone flakes appear immune non reactive to Periodic acid Schiff's (PAS) stain, mucin, trichrome or Oil red O stain [7,8].

Amalgamation of silicone within lymph node parenchyma necessitates segregation from lesions as adipose tissue necrosis, lipogranuloma, metastatic lobular carcinoma, metastatic renal cell carcinoma, metastatic signet ring cell carcinoma, signet ring cell type lymphoma or sinus histiocytosis with massive lymphadenopathy [7,8].

Silicone amalgamation within lymph node parenchyma may be suitably diagnosed by morphological assessment of surgical tissue samples [9,10].

Upon ultrasonography, a hyper-echoic shadow indicative of enhanced echogenicity within lymph node parenchyma and 'dirty' acoustic shadowing may be observed [9,10].

The hyper-echoic shadow commences upon hilum and proceeds extraneously through lymph node cortex, contingent to quantifiable silicone and duration of existence of silicone within the lymph node parenchyma. Severe lesions may display a 'snowstorm' appearance. Mediastinal lymph nodes are especially involved [10,11].

Lymph nodes impregnated with silicone particles may be suitably managed with surgical extermination of the node [11,12].

Prognostic outcomes are contingent to quantifiable silicone pervading the lymph nodes and severity of inflammatory reaction evoked by the implants [11,12].

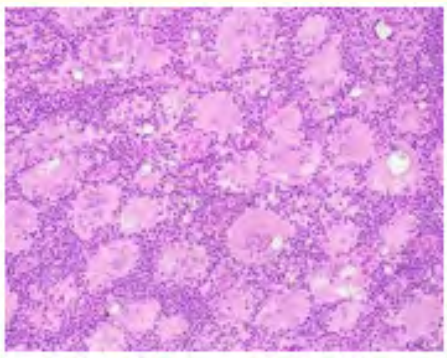

Figure 1: *Silicone lymphadenopathy demonstrating follicular hyperplasia. Intra-sinusoidal macrophages appear pervaded with silicone particles [13].*

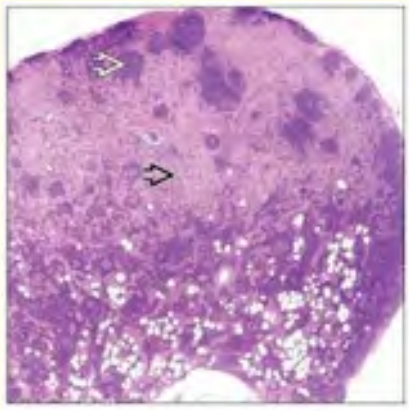

Figure 2: *Silicone lymphadenopathy delineating follicular hyperplasia. Aggregates of macrophages with vacuolated cytoplasm appear to be permeated with silicone fragments [14].*

Bibliography

1. Zhang X., *et al*. "Silicone lymphadenopathy: A case report and literature review". *Medicine (Baltimore)* 105.1 (2026): e46777.
2. Bui J., *et al*. "Diagnostic dilemma of silicone-induced ipsilateral internal mammary lymphadenopathy mimicking breast cancer recurrence after mastectomy: a case report". *Journal of Medical Case Reports* 20.1 (2026): 69.
3. Rosenthal A., *et al*. "Silicone lymphadenopathy following augmentation mammoplasty with silicone implants". *Aesthetic Surgery Journal* 44.11 (2024): 1167-1175.
4. Avgeri CT., *et al*. "Silicone cervical lymphadenopathy: a rare complication after breast augmentation". *Cureus* 15.12 (2023): e50453.
5. Zhong H., *et al*. "Monomorphic epitheliotropic intestinal T-cell lymphomas: a case report". *Diagnostic Pathology* 16 (2021): 80.
6. Veloza L., *et al*. "Monomorphic epitheliotropic intestinal T-cell lymphoma comprises morphologic and genomic heterogeneity impacting outcome". *Haematologica* 108.1 (2022): 181-195.

7. Van Bockstal MR., *et al*. "Breast-implant related silicone lymphadenopathy: asteroid bodies do not always equal sarcoidosis!". *International Journal of Surgical Pathology* 31.6 (2023): 1099-1104.

8. Klang E., *et al*. "Detection of pathologically proven silicone lymphadenopathy: ultrasonography versus magnetic resonance imaging". *Journal of Ultrasound in Medicine* 37.4 (2018): 969-975.

9. Li SJ., *et al*. "Enlarging internal mammary silicone lymphadenopathy mimicking breast metastases". *Journal of Medical Imaging and Radiation Oncology* 65.2 (2020): 216-218.

10. Cho E., *et al*. "Silicone-induced lymphadenopathy mimicking recurrence of breast cancer on positron emission tomography-computed tomography, correctly diagnosed on ultrasound". *Journal of Clinical Ultrasound* 49.6 (2021): 610-613.

11. Chae RP., *et al*. "Progressive silicone lymphadenopathy post mastectomy and implant reconstruction for breast cancer". *BMJ Case Reports* 14.2 (2021): e237711.

12. Quesada AE., *et al*. "Breast implant-associated anaplastic large cell lymphoma: a review". *Modern Pathology* 32.2 (2019): 166-188.

13. Image 1 Courtesy: Pathology outlines.

14. Image 2 Courtesy: Basic Medical Key.

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