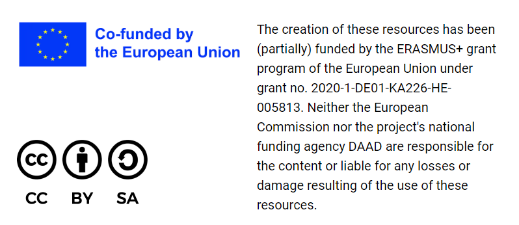
Patient case 2

Course Clinical Pathology

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## Pathology-UG case 2

### Patient history:

The 41-year old female was examined for changes in her right breast and axillary region. Her anamnesis revealed that she underwent surgery for breast implants approximately 10 years ago. In a current MRI scan, the implants show superficial lacerations and are surrounded by collections of fluid. In addition, the axillary lymph nodes are rounded and slightly increased in size.

**Histopathological report** (PAD):

***Macroscopic*** examination of the specimen from the axilla shows two enlarged lymph nodes (45 and 15 mm in diameter) embedded in axillary fat.

***Histological*** examination

*Lymph node*: The enlarged lymph node as a normal fibrous capsule and normal subcapsular sinus. The general structure of the lymph node however is distorted. Only focally, regular lymphocytes can be seen, and rarely they form follicular structures. These rare follicular areas also show occasional germinal centers and mantle zones. The cellular structure of the lymphocytes is normal.

The major part of the lymph nodes consists of multi-nucleated giant cells. These giant cells are filled with a various number of nuclei. In addition to the nuclei, the giant cells show small rounded open spaces that represent foreign body material.

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| Lymph node: foreign body reaction-silicone (WSI) |

### Questions

Here we show the section of the lymph node described in histopathological report

**Marker question 1**

Mark an area where the general structure of the lymph node is clearly distorted.

**Corresponding free-text question**

Describe why this area is different from the structure of a normal lymph node.

Answer:

**Marker question 2**

Mark a multi-nucleated giant cell

**Multiple choice question**

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| Still image with CD-68 immunochemical staining |

This specimen of the axillary lymph node demonstrates immunohistochemical expression of CD68.

Giant-cells like macrophages express CD-68 antibody. The reason for this is that giant cells:

* are formed by macrophages that fuse in immune responses (t)
* enclose macrophages in an auto-immune process
* present the antigenetic material to the macrophages in a humoral immune response
* are coloured as an artifact of the staining technic
* fagocyte the same foreign body material as the giant cells

**Multiple choice question**

Which processes are most likely the main cause of lymph node enlargement in foreign body lymphadenopathy?

* accumulation of foreign body materials (t)
* hyperplasia of macrophages (t)
* hyperplasia of T and B-lymphocytes
* proliferation of malignant cells
* congestion of small blood vessels

How are the precursors of giant cells called?

* basophilic granulocytes
* eosinophilic granulocytes
* lymphocytes
* monocytes (t)
* neutrophilic granulocytes
* histiocytes (t)

**Corresponding free-text question**

Descibe the path and manner in which foreign body material will be transported from the interstitial fluid of the breast to the the multi-nucleated giant cells in the axillairy lymph node.

[*Answer:* Monocytes leave the bloodvessels to enter the tissue of the breast. The monocytes become histiocytes (phagocytes) and enclose the foreign body material that is present in the interstitial space. The phagocytes are taken up by the lymphatic capillaries and transported to regional axillary lymph nodes. The afferent lymph vessels pierce the surface of the lymph node and bring the lymph with phagocytes into the subcapsular space. The afferent lymph vessels extend from here to the deeper areas of the lymph node by way of the trabecular extensions of the cortex. The fluid travels from here to the cortical sinuses; which are branches of the subcapsular sinus.]

**Multiple choice question**

Which three causes among the following options would you consider when you find an unilateral enlargement of inguinal lymph nodes in a patient?:

* Hip joint prothesis at the same side (t)
* Infectious mononucleosis
* Melanoma of the leg at the same side (t)
* Shoulder joint prothesis at the same side
* Rheumatioid arthritis
* Receiving a ankle tattoo at the same side (t)

Which three causes among the following options would you consider when you find an bilateral enlargement of axillary lymph nodes in a patient?:

* Breasttumor at one side
* Infectious mononucleosis (t)
* Human Immunodeficiency Virus infection (t)
* Upper airway infection
* Rheumatioid arthritis (t)
* Vaccination for measles

### Summary

The foreign material is silicone originating from the ruptured implant. In polarized light, the foreign particles show a typical bi-refringent reaction. This particular specimen does not show a granulomatous inflammation although it is common in foreign body reactions.

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| Still image with foreign body material in polarizing light |