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Schaumann Bodies In Tuberculous Granulomas: A Case Report.

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Abstract: A 28 yr old female patient presented with pain abdomen. The appendicectomy specimen from the patient showed tuberculoid granulomas. The giant cells showed Schaumann bodies in the form of large concentric calcifications. Schaumann bodies are commonly described in Sarcoidosis and very rare to be seen in tuberculoid granulomas.

Key words: Schaumann bodies, tuberculous granuloma.

Introduction:

Schaumann bodies are commonly observed and described in sarcoidosis. They are very rarely seen in tuberculous granulomas.

Schaumann bodies may be seen in the Giant cells as large concentric calcifications [1].

A case of Granulomatous (tuberculous) appendicitis is presented which showed Schaumann bodies in the granulomas.

Case report:

A 28 years female presented with pain abdomen, and had history of amenorrhoea of 2 months. Patient was taken for emergency laparotomy and it was found that there was a hemorrhagic cyst in the right ovary and there was a mass in the pouch of Douglas. The mass was removed and appendicectomy performed and sent for histopathological examination.

Gross:

1. Appendicectomy specimen- measured 3cm and external surface congested. Cut section showed the obliteration of lumen.

2. A grey brown mass with blood clots measuring 2x1.5x1cm.

Microscopy:

Microscopic examination of appendix showed obliterated lumen with dense fibrosis. Wall and serosa showed multiple well formed coalescing granulomas with central caseating necrosis. Giant cells were seen which contained calcific Schaumann bodies (Fig.1). Reticulin stain showed loss of reticulin with epithelioid granulomas with giant cells. ZN stain for AFB showed occasional bacilli. Vonkossa stain was positive. A diagnosis of Granulomatous (Tuberculous) Appendicitis was made.

Microscopic examination of the hemorrhagic mass showed lot of hemorrhage, necrosis and few hyalinised chorionic villi.

Discussion:

Schaumann bodies are commonly seen in sarcoidosis. Schauman bodies also called as conchoidal bodies were first described by Jorge Schaumann in 1941 [2]. They are not pathognomonic of sarcoidosis for they have been found in berryliosis, tuberculosis, and lymphogranuloma inguinale.

The prevalence of genital tuberculosis, in general, has never been estimated since it is not practicable. However, 0.2 to 2.0% of all gynaecological admissions are due to tuberculosis. Tuberculosis of the genital tract is almost invariably secondary to a primary lesion elsewhere in the body, the latter usually being quiescent by the time pelvic involvement is diagnosed. In the majority, the infection reaches

the genital tract (mostly fallopian tubes) by the haematogenous route. In a minority of cases, tubes, ovaries and the serosal surface of uterus become involved from the peritoneal spread which occurs from an intra-abdominal lesion, as was seen in our case which led to its spread to the appendix as well [3].

Chronic granulomatous inflammation is characterized by the formation of epithelioid cell granulomas. Epithelioid cells are activated macrophages that appear on microscopic examination as large cells with abundant pale, foamy cytoplasm; they are called epithelioid cells because of a superficial resemblance to epithelial cells. Granulomas are usually surrounded by lymphocytes, plasma cells, fibroblasts, and collagen. Tuberculous granulomas consist of central caseating necrosis.

A typical feature of epithelioid cell granulomas is the formation of Langhans-type giant cells that are derived from fusion of macrophages and characterized by 10–50 nuclei around the periphery of the cell. Giant cells were first described by Johannes Miller, Virchow's teacher, in 1838. It was realized that macrophages can give rise to giant cells, either by cell fusion or by nuclear division that is not followed by cell division [4].

A variety of inclusions may be found within the cytoplasm of giant cells. Crystalline inclusions are colourless refractile crystals composed predominantly of calcium oxalate are frequently found in giant cells of granulomas of sarcoidosis and other diseases. These may serve as a nidus for deposition of calcium leading to formation of Schaumann bodies. These inclusions are birefringent to polarized light.

Schaumann bodies are large concentric calcifications often containing refractile calcium oxalate crystals. Although usually intracytoplasmic they may, if numerous or very large, be extruded into the extracellular space. What these inclusions mean is not known, though are believed to be non-specific end-products of the active metabolism and secretion that takes place in the giant cells [5].

The giant cells may also contain beautiful asteroid bodies composed of cytoskeletal material (including tubulin) and phospholipid[4].

Conclusion:

Though **S**chaumann bodies are commonly seen in Sarcoid granulomas, but can be rarely seen in granulomas due to other causes especially tuberculosis.

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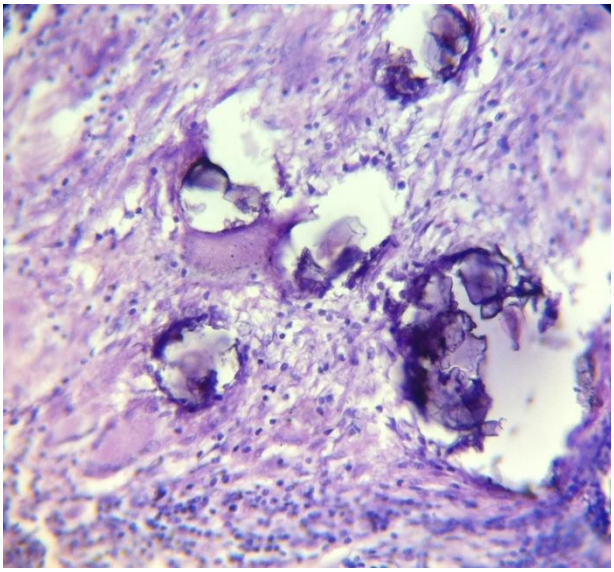
Legends:



1. Fig.1.Granuloma with Giant cells containing concentric calcific Schaumann bodies. H&E (x400)