Case Report

A 50-year-old lady, evaluated for lower abdominal pain was referred to our institution with a provisional diagnosis of ovarian tumour. She gave a history of vague abdominal pain for the last two years which aggravated since six months. Her cycles were irregular with two episodes of excessive bleeding. Fine needle aspiration cytology done from the enlarged right inguinal lymph node five months back showed suppurative necrosis with attempted granuloma formation. Fractional curettage done five months back showed disordered proliferative endometrium. There was no history of IUCD usage or MTP. No history of tuberculosis, pelvic inflammatory disease (PID) or any other significant illness in the past. She is a housewife with four children. On examination pallor was present. Right inguinal node was enlarged 2 x 1.5 cms. Per vaginal examination showed a bulky anteverted uterus with restricted mobility and a vague mass in the right adnexa.

Blood investigations showed Hb value of 8.3gm/dl and ESR -68mm/1ST hr. Cancer Antigen 125 and CEA were within normal range. Serial sonographic studies and CT scan revealed a heterogenous mass lesion in the right adnexa, measuring 7 x 5 cms which was adherent to the uterus, suggesting ovarian neoplasm [Table/Fig-1a]. Based on radiological studies a staging laparotomy along with biopsy of the enlarged right inguinal lymph node was done. Peroperatively the right ovary was enlarged and adherent to the fallopian tube and pelvic wall. Gross examination revealed a right tuboovarian mass with yellowish areas of necrosis and fibrosis. Histology showed a suppurative granulomatous lesion with spherical granules having club like peripheral projections. A panel of special stains (GMS, GRAMs and AFB) done were negative. Thus, we ruled out actinomycosis and gave a diagnosis of PAMRAG.

Discussion

PAMRAGs were first described by O’Brien et al., in 1981, in his study on endometrial curettings examined during IUCD removal [1]. They occur in the female genital tract, most commonly in the endometrium [1,2]. They are comparatively commoner than true actinomycotic infections in patients using IUCDs [1]. However occurrence in studied showed basophilic spherical granules and strips with broad peripheral clubs but no dense core [Table/Fig 1d,2a]. Considering the possibility of actinomycosis, a battery of special stains were done. The granules gave a non specific reaction with grams stain and negative reaction with modified AFB and GMS [Table/Fig2b-d]. Sections from inguinal node showed giant cell reaction only. Thus a diagnosis of PAMRAG was made.

Keywords: Endometrium, Oophoritis, Tubo ovarian mass
PAMRAGs are seen as thick irregular club like peripheral projections without a central dense core. They may be spherical or appear as strips and are refractile but non birefringent with polarized light. Surrounding neutrophilic reaction may be present. Actinomycotic granules are non refractile with thin basophilic radiating filaments and a central dense eosinophilic core. The recommended panel of special stains are Gomori methenamine silver, Brown & Brenn tissue gram stain and modified AFB stain. All these stains were done in our case, and we got negative reaction with GMS and modified AFB and a non specific reaction with grams stain. Thus we excluded actinomycosis (gram positive) and nocardia (modified AFB positive) and arrived at a diagnosis of PAMRAG.

Due to the varied aetiology of tuboovarian masses, a proper work up is mandatory to delineate the underlying cause. This is of utmost importance when the clinical and sonological findings suggest neoplastic cause, as in our case. Though we excluded neoplastic aetiology after the initial histopathology evaluation, the exact cause was confirmed only after doing an array of special stains. Pathologists should be familiar with the existence and diagnostic criteria of PAMRAGs to avoid an erroneous diagnosis of actinomycosis since the management differs [7]. A proper antibiotic coverage is essential in actinomycosis, whereas PAMRAGs do not contain microorganisms and are considered to be nonpathogenic. Since coexistence of PAMRAGs and actinomycosis have been reported, it is important that a detailed microscopic examination is done to exclude actinomycosis [2,8]. This case highlights the importance of histopathological evaluation and judicious use of special stains.

CONCLUSION

There are multiple causes for tuboovarian masses, both neoplastic and non neoplastic. Hence a proper clinico pathological correlation and detailed workup is necessary to find out the underlying cause. Pathologists should be aware of this rare entity due to the superficial resemblance to actinomycosis and the varied treatment options.

REFERENCES


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