

Suspicion of Genital Tuberculosis Isolated within the Unilateral Ovary with the Dermoid Cyst : A Diagnostic Dilemma

O.B. Kalinkina¹, O.I. Lineva¹, V.A. Zhirnov¹, O.R. Aravina¹, T.I. Kaganova¹, I.L. Davydkin¹, M.A. Osadchuk², A.M. Osadchuk¹, S.G. Shulkina³ and M.V. Trushin⁴

¹ Samara State Medical University, Samara, Russia

² Federal State Autonomous Institute of Higher Education The First Sechenov Moscow State Medical University under the Ministry of Health of the Russian Federation (Sechenovskiy University)

³ E.A. Vagner Perm State Medical University, Perm, Russia

⁴ Kazan Federal University, Kazan, Russia

Abstract.

Genital tuberculosis isolated in the same ovary with dermoid cyst is a rare condition. We present a 25-year female with a removed dermoid cyst of the ovary who underwent urgent subsequent laparoscopy within 3 months from the first surgery in order to exclude an ectopic pregnancy. The challenging in the pathology report from the second surgery was raised suspicion of specific infection of the resected ovary. To our best knowledge, only one case of tuberculosis of the dermoid cyst reported in 1958. A multidisciplinary approach involving chest specialist, gynecologists and morphologist have opted.

Keywords: benign ovarian mass, genital tuberculosis, dermoid cyst of the ovary, ectopic pregnancy, morphology.

INTRODUCTION

Neoplasms of the ovary in women of reproductive age always require histological verification of the origin of the tumor. Suspicion of specific infection of the ovary with resected mass – dermoid cyst according to histopathological report is a rare condition. [1]. We present 25-year-old female, married with a single partner, from a prosperous family. No traced significant infections during childhood. Vaccination was carried out in accordance with the immunization schedule, in particular, the BCG vaccine. Age of menarche is 12 years old with regular no painful periods, sexual life this woman started 4 years ago. There is a single abortion in her history due to miscarriage at 5-6 weeks of gestation. Histological report of the abortive material describes fetal tissue with necrosis. Within 3-4 months from the abortion, the patient underwent laparoscopy with resection of a dermoid cyst of an ovary. According to histology removed mass consisted of the opened cyst of the sizes of 4x2x2 cm. The hairs, grease masses of 2x2 cm in size are found at cyst cavity. Microscopically the wall of a tumor is described as derivative well differentiated germinal tissue with the prevalence of ectodermal components – elements of skin and its components (epidermis, a layer fibrous elastic and fatty tissue, sweat and sebaceous glands, hair follicles), elements of fibrous fabric. After the executed resection woman received recommendations about contraception within at least 3 months but she did not follow them.

The woman complained of bloody discharge which she had for 2 weeks of period delay. Her pregnancy test was positive. With the diagnosis pregnancy of small terms, a threat of miscarriage she was urgently hospitalized to the gynecological department. At her physical examination, no pathology signs was found. Her general condition was considerate as good. The patients BMI was normal and blood samples obtained revealed normal parameters such as hemoglobin level at 134 g/l, erythrocyte sedimentation rate (ESR) was 12 mm/h. Patients HCG level was 977 ME/l that corresponds to 3-4 weeks of gestations but estimated on last period data it should be 5-6th weeks of gestation. A bimanual examination presented normal, dense, mobile, not painful uterus. The annexes on both sides had no signs of mass. There was no egg visible by ultrasound within the uterus. Considering the proceeding bleeding from a genital tract, lack of effect of conservative therapy and an increase of a blood HCG level-up to 1050 ME/l within 3-4 days from hospitalization, the decision to carry out a laparoscopy with the purpose to exclude extra-uterine pregnancy is made

The diagnosis of an extra-uterine pregnancy hasn't been confirmed. The diagnosis of extra-uterine pregnancy hasn't been confirmed at a subsequent laparoscopy. Resection of the right ovary with removed dermoid cyst were made after 2 months from the first laparoscopy. Increase in the HGCh level in blood was regarded as the result a miscarriage of pregnancy of small terms. Subsequently, a decrease in HGCh to normal amounts was noted.

Tuberculosis of the ovary suspected by results of the conducted histology research of the ovarian biopsy. The necrosis centers at the periphery of the cyst wall and focuses of a possible caseation necrosis were found. It was also reported a weak epithelioid cellular infiltration with huge cells like Pirogov-Langhans. The last ones are typical for tuberculosis. Most of all the biopsy data corresponds to drawn that the productive inflammation of a specific tuberculosis etiology. For verification of the diagnosis biopsy material of the ovary was stained with Tsil – Nielsen technique. The current technique of staining is used for identification of acid resisting mycobacterium of tuberculosis at the centers of a necrosis.

This patient has been addressed to a chest specialist. Tuberculin test was done twice with positive result of 15,37 mm of reaction. Mycobacterium of tuberculosis at a cultural screening of menstrual blood was not found. X-ray of the chest presented no signs of lung form of tuberculosis.

According to the available literature data, the suspicion of genital tuberculosis might be totally declined in patients negative to tuberculin blood test. Patients with positive reaction to test should be referred to infected patients. The fact of the existence of latent tuberculosis should be considered as a possible reason of subfertility. [5]

We revised the material of ovaries biopsy. Our histological founding's was following. In the wall of the dermoid cyst the lymphocytes infiltration is presented. There are huge, multinuclear cells of foreign materials (see fig a), focuses on a necrosis. The ovarian tissue fragments presented with the hemorrhages and an aseptic necrosis focuses, (see fig a.). Congestions of dense eosinophilic proteinaceous masses with giant cell reaction of foreign matters, close small single granules of macrophages ("CHIC" reaction on the issue was negative, staining of Congo technique for amyloid was negative too). The epithelial layer on a large extent was absent. On small sites dystrophic the changed cages of a basal layer of a multilayered flat epithelium. In a gleam unstructured amorphous eosinophilic necrotic masses, places with inclusions of structures of a necrosis are multilayered with epithelium.

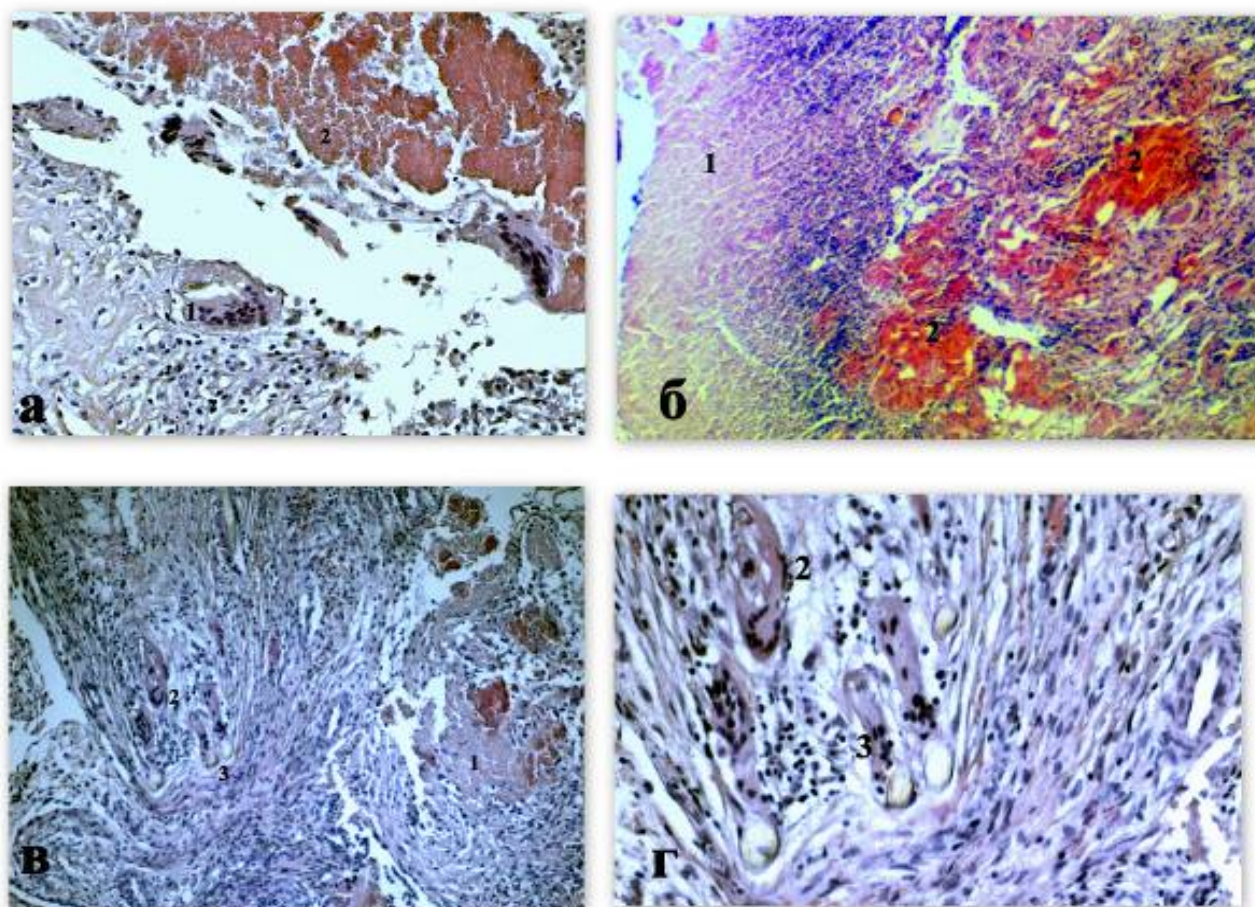


Figure 1. a. In a wall of the dermoid cyst lymphocytes infiltration is presented. [There are huge, multinuclear cells of foreign materias (1), foci of a necrosis (2) m400. Staining of H+E; Fig. 6. Ovary tissue with sites of aseptic necroses (1) and hemorrhages (2) m200. Staining of H+E; Fig. in. Huge multinuclear cages of foreign matters (2) around the remains of sutural material (3), foci of a necrosis (1) m200, m400. Staining of H+E.

RESULTS AND DISCUSSION

Tuberculosis is a specific infectious disease caused by *Mycobacterium tuberculosis* (MTB). [2] The most frequent form is a pulmonary form of the disease. Surprisingly about 15-20% of MBT infectious cases are the active centers of tuberculosis are found in other sites of the body. [2] Up to 90% of cases of infection with mycobacterium of tuberculosis can stay asymptomatic for a long time. So-called a latent infection with the probability of 10% might develop to the active process. [1]

The frequency of occurrence of genital tuberculosis in the structure of extrapulmonary forms is about 12,5-14,5% according to modern literature review. This percentage increases up to 10-25% within the group of the women with primary infertility. About 90-95% of patients with tubercular damage of the reproductive system suffer from infertility. Infertility may be the one and only reason to address the physician [2].

Major risk factors of tuberculosis are poverty, malnutrition, overpopulation of megalopolises and HIV infection. [2] Heavy fever of not clear genesis, cough, night perspiration, loss of weight, loss of an appetite are the general symptoms of the disease. Statement of the clinical diagnosis is based on verification of the activator (MBT) in any clinical sample (a phlegm, blood, biopsy material). [1] Test to Mant is described in researches as most diagnostic a valuable method of detection of a disease in comparison with PTsR-method of the definition of mycobacteria of tuberculosis [1,3]. According to some data the specificity and sensitivity of this method at the faces of the authors who have undergone BCG-vaccination doesn't exceed

49% and 78% respectively at persons with the confirmed active forms of a disease. [3] Concerning a role of the general oncological markers, for example, of CA-125, his levels can be increased at infection of MBT, however, and the existence of a benign tumor of an ovary (a dermoid cyst in the case described by us) can lead to increase in this protein also. [1]

Patients history review and objective data of survey of patient with genital forms of tuberculosis, the subfebrile temperature, the long course of inflammatory diseases of bodies of a small pelvis often come to light, the accompanying change of the uterine tubes (symptoms of "beads", "maces", "bulbs") determined by data of a salpinography or when carrying out a diagnostic laparoscopy, increases in the thickness a myometrium and ovaries is frequent without effect of the carried-out antibiotic treatment. [2,3] In the case of similar symptoms described by us it was revealed not, and during observation at the patient there occurred pregnancy twice. We also haven't succeeded to obtain MBT at the culture from menstrual blood samples of this patient.

The revision of the ovaries biopsy faced clinicians to the ambiguity of the obtained morphological data. We have carried out specific histochemical staining of biomaterial according to Tsil – to Nielsen technique in order to find an acid resisting forms of mycobacteria of tuberculosis but we failed to found them. [6] Therefore the huge cells which are earlier described as specific cells of Pirogov-Langkhansa have been regarded by us as huge cells formed around the foreign matters as a result of nonspecific granulomatous inflammation near sutural material.

At emergence of the general symptoms of tuberculosis in this patient, or at emergence of complaints to pains in the bottom of a stomach, infertility or violation of menstrual function is possible to consider option of an aim biopsy of an ovary under control of a sonography with the purpose to exclude activation of the latent center of tuberculosis and to allocate the activator in the received biopsy. [7] At the time of writing of article at the patient of similar symptoms described by us, it wasn't noted.

CONCLUSIONS

Difficulties in the interpretation of a morphological data are probably due to frequent surgeries on the same ovary with the development of nonspecific productive granulomatous inflammation around the sutural material with the existence of huge cells of foreign matters, similar to Pirogov-Langkhansa's. Last ones a most common for the genital tuberculosis. It is possible to explain the features of the morphological report which have demanded the involvement of various experts for the purpose of verification of the diagnosis with lack of a clear clinical picture of a disease of the tuberculin test positive patient. Observance of consecutive stages of pre-pregnancy preparation, according to the existing protocol, in particular, the recommended terms of planning of pregnancy after surgeries on reproductive organs and inspection volume at not developing pregnancy would allow reducing effectively the of reproductive losses at this patient. [8]

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