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RESEARCH ARTICLE

WOMEN GENITAL TUBERCULOSIS: A STUDY OF TWO CASES AT MOHAMMED VI UNIVERSITY HOSPITAL IN MARRAKECH

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Abstract

Objective: Tuberculosis is a contagious infectious disease caused by the Mycobacterium tuberculosis. It is often pulmonary but in rare cases extrapulmonary such as genital tuberculosis. The aim of this study is to report two cases of genital tuberculosis at the Mohammed VI University Hospital.

Case presentation: We report the case of two patients who consulted for different symptomatologies, one for chronic pelvic pain and the second one for primary infertility of 9 years. The investigations carried out led to the diagnosis of genital tuberculosis with endometrial and fallopian tubes localization respectively, which was confirmed by histological examination.

Results: **Case 1:**60-year-old female patient with no previous history of tuberculosis, menopaused, multiparous, consulted for pelvic pain associated with weight loss. Clinical examination was without any particularity. Pelvic ultrasound revealed a 1.5cm glandular-cystic endometrial thickening. NOVAK endometrial biopsy yielded ten millilitres of purulent fluid and endometrial tissue. Cytological examination of the purulent fluid revealed an inflammatory cytology with a predominance of altered leukocytes and no suspicious cells. Pathological examination of the endometrial tissue showed epithelioid and giganto-cellular granulomatous inflammation, with caseous necrosis, suggesting genital tuberculosis. Patient was referred to tuberculosis care center, where an antibacillary treatment was initiated according to protocol 2 ERHZ and 4RH.

Case 2: Patient aged 33, genitally active, consulted for primary infertility of 9 years with no other associated signs. The clinical examination was without any particularity. Paraclinical examinations, (hormonal assessment, pelvic ultrasound and the husband's sperm analysis), were without any particularity. The hysterosalpingography noted bilateral tubal obstruction. A laparoscopic surgical procedure revealed a caseous collection in the fallopian tubes, and histological examination was in favour of tuberculosis. Patient was referred to tuberculosis care center for treatment (2ERHZ/4RH protocol), and In Vitro Fertilization was proposed.

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Conclusion: Genital tuberculosis is a rare pathology, with great clinical variability, so its incidence remains underestimated.

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Introduction:-

Tuberculosis (TB) is a contagious infectious disease caused by the **Mycobacterium tuberculosis**, also known as Koch's bacillus. The disease is commonly found in the lungs, but in rare cases, it can be present in other organs such as the lymph nodes, pleura, bones, joints, meninges and urogenital tract.Morocco is categorized as a country with a moderate incidence of tuberculosis. According to the World Health Organization (WHO), this disease affected approximately 35,000 people in Moroccoin 2022, resulting in around 3,300 deaths and a lethality rate of 8.8%. Despite efforts to considerably reduce incidence and mortality by 19% and 6% respectively between 2000 and 2023, tuberculosis remains a public health problem in Morocco[1].Extrapulmonary tuberculosis accounts for 16% of reported cases worldwide, exhibiting significant regional variations[2,3]. Genital tuberculosis (GT) in women is one of the rarest cases of extra-pulmonary tuberculosis, and very little is known about it (6-10%). It is less common in underdeveloped countries due to diagnostic difficulties, and mainly affects women from disadvantaged backgrounds.It affects both young and post-menopausal women. TG is an important cause of morbidity and infertility worldwide.The pathogen typically spreads to the genital tract hematogenously from an initial tuberculous focus, affecting the fallopian tubes, cervix, and endometrium [4].Many patients suffering from this pathology has an indolent disease and are only diagnosed after an infertility assessment. In addition to infertility, women may also present irregular menstrual periods, abdominal or pelvic pain, or abnormal vaginal discharge [4].Due to the low sensitivity of diagnostic tests, various methods are employed to diagnose genital tuberculosis, including a combination of endoscopic findings, microbiological or molecular tests, and histopathological evidence in gynecological samples.Early treatment with a standard therapeutic regimen comprising a 2-month intensive phase with ERHZ (isoniazid, rifampicin, ethambutol, and pyrazinamide), followed by a 4-month continuation phase with RH (isoniazid and rifampicin), is recommended to prevent irreversible organic damage. However, despite treatment, genital tuberculosis can lead to infertility or pregnancy-related complications, and stigmatization [3].

Materials and Methods:-

In this study, we report the case of two patients who consulted for different symptomatologies, one for pelvic pain and the second one for primary infertility of 9 years, in whom the investigations carried out led to the diagnosis of genital tuberculosis with endometrial and fallopian tubes localization respectively, confirmed by histological examination.

Case Report:

Case 1:

The patient was 60 years old, with no particular history, multiparous, postmenopausal about ten years ago, who consulted us for pelvic pain that had been evolving for about 4 months, in a context of weight loss. Clinical examination was without any particularity. Pelvic echography revealed a 1.5centimeter glandular-cystic endometrial thickening.

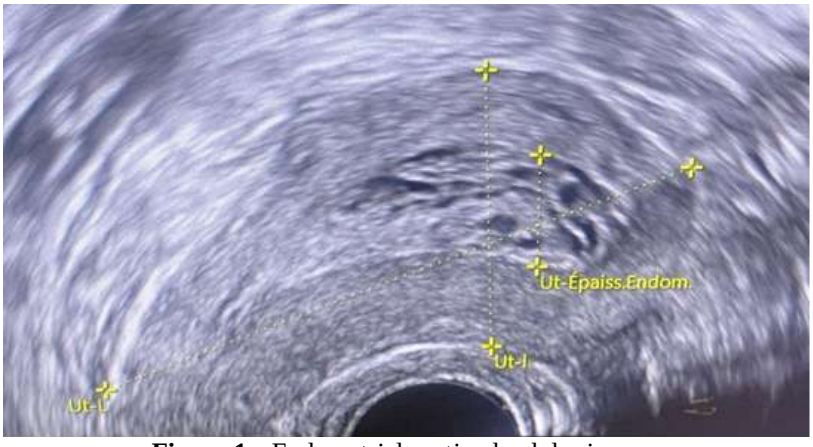

Figure 1:- Endometrial cystic glandular image.

A NOVAK endometrial biopsy yielded approximately ten milliliters of purulent fluid and endometrial tissue. Cytological examination of the purulent fluid indicated inflammatory cytology with a predominance of altered leukocytes and no suspicious cells.

Anatomopathological examination of the endometrial tissue showed epithelioid and giganto-cellular granulomatous inflammation, with caseous necrosis, suggesting genital tuberculosis. The patient was referred to a tuberculosis care center, where anti-tuberculosis treatment was initiated according to protocol 2 ERHZ/4RH.

Case 2:
Patient aged 33, genitally active, consulted for primary infertility of 9 years with no other associated signs. The clinical examination was without any particularity. The paraclinical examinations, notably the hormonal assessment, pelvic ultrasound and the husband's sperm analysis, were without any particularity; the hysterosalpingography noted bilateral tubal obstruction.A laparoscopic surgical procedure (tubal surgery) revealed a caseous collection in the uterine tubes, histologically consistent with tuberculosis. The patient was referred to the tuberculosis care center for antituberculosis treatment (2ERHZ/4RH protocol), with a proposal for IVF (in vitro fertilization) in our department at a post-treatment interval.

Discussion:-

Tuberculosis is still a worldwide health issue, and in developing countries such as Morocco, the disease remains largely endemic. The extra-pulmonary form, frequently characterized by a weak presence of bacilli, is attracting renewed interest due to an inexplicable increase in its relative frequency, reaching 20 to 40% according to various studies [5]. In particular, the female genital localization is largely underestimated and little addressed in the medical literature, explaining the frequent delays in diagnosis [6].

Urogenital tuberculosis is responsible for 27.1% of extra-pulmonary tuberculosis cases, with genital tuberculosis occurring in 9% of cases [7]. The exact incidence of genital tuberculosis in women is not known, due to under-reporting of asymptomatic cases, unclear symptomatology and the lack of high sensitivity, robust diagnostics [8–11].

The reported incidence varies across countries, being 1% in infertility clinics in the United States and Scandinavian countries [12,13],], 4 to 8% in Pakistan [14,15], to 21.1% in South Africa [16], and 1 to 19% in different regions of India [18].The Maghreb countries record the highest rates of extrapulmonary tuberculosis worldwide, ranging from 45 to 60%. In a retrospective study conducted in Tunisia involving 22 cases, Hammami et al. concluded a prevalence of 6 to 10% for all tuberculosis locations [18].

Immunodeficiency, particularly HIV, increases the lethality rate of TB. In Morocco, according to the National TB Strategic Plan, in 2021 mortality among TB patients without HIV co-infection has been estimated at 3,300 cases, representing a mortality rate of 8.8 per 100,000 inhabitants, while for patients co-infected with HIV, the number of deaths is 84, representing a rate of 0.23 per 100,000 inhabitants. The lethality rate is 10% for total TB cases and 20% for HIV-coinfected TB patients. HIV infection has increased the incidence of extra-pulmonary tuberculosis and therefore genital tuberculosis in Africa and India[19,20], due to low immunity

The clinical presentation of extrapulmonary tuberculosis depends on the site of infection. Approximately 40% of infertile women with latent tuberculosis are asymptomatic [15].In our cases, the reasons for consultation include infertility (due to obstruction or damage to the fallopian tubes and/or very low receptivity of the endometrium) and chronic pelvic pain. Similar reasons for consultation have been reported in several other studies [2,4,15].However, there is no consensus on the diagnosis of extrapulmonary tuberculosis, including genital tuberculosis in women. The Index TB guidelines for extrapulmonary tuberculosis, developed by the WHO for India, suggest that confirmation of genital tuberculosis requires either positive laparoscopic findings, positive acid-fast bacilli (AFB) smear or culture, or histopathological evidence of granulomas in a gynecological sample [21]. The same diagnostic approaches have been used in studies conducted in Morocco [4,22].

The differential diagnosis of genital tuberculosis is wide-ranging. It can mimic carcinoma of the ovary and endometrium, and may be detected incidentally during evaluation for malignancy [23–26]. Endometrial tuberculosis in our case presented endometrium thickening like an adenocarcinoma of the endometrium. Geographical location, personal antecedents and family history of tuberculosis and the patient's age may help to guide the diagnosis [25].

Several studies have formally evaluated the optimal treatment regimen for female genital tuberculosis.However, WHO guidelines and the Centers for Disease Control and Prevention/Infectious Diseases Society of America recommend that extrapulmonary tuberculosis be treated in the same way as pulmonary tuberculosis with the same drugs for a duration of 6 months [27]. The standard treatment regimen, consisting of an intensive phase for 2 months with isoniazid, rifampicin, ethambutol, and pyrazinamide, followed by a continuation phase for 4 months with isoniazid and rifampicin, has been used to treat genital tuberculosis [4,22,28–30]. Our patients received also the same treatment.

Conclusion:-

Genital tuberculosis is a rare pathology, with great clinical variability and an underestimated incidence. Diagnosis is difficult, and depends on bacteriological and/or histological examination. Several clinical pictures or when infertility is being investigated in women often evokes it. Early and systematic diagnosis in women with menstrual cycle disorders or infertility should be considered, particularly in countries with a high incidence of tuberculosis like Morocco.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

Consent

Informed consent was obtained from the patient to report the case.

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