Case Report

Tuberculosis of the Cervix Mimicking Cervical Carcinoma: A Case Report

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Abstract

Tuberculosis of the cervix is reported to be very rare with clinical features that are indistinguishable from that of invasive cancer of the cervix. We report the case of a 31 year old nulliparous lady that presented with intermenstrual bleeding and a persistent abnormal vaginal discharge after receiving several forms of treatment for cervical cancer. Vaginal examination revealed an extensive friable erythematous lesion affecting the entire ectocervix. Tuberculosis was confirmed following biopsy of the lesion and the patient was successfully managed with a course of anti-tuberculosis medication.

Keywords: Cervical tuberculosis; Genital tuberculosis; Cervical cancer; Cervical biopsy; Uyo.

Introduction

Tuberculosis (TB) is considered the most important communicable disease and a significant cause of morbidity and mortality particularly in the developing world[1]. Available evidence indicates that there has been an increase in the number of cases of TB especially in countries like Nigeria where the prevalence of HIV/AIDS is high[2]. The primary focus of infection in tuberculosis is the lungs in most instances with hematogenous dissemination to other parts of the body occurring in progressive primary or secondary TB[3]. Genital tract TB which is rarer usually arises as a secondary infection and can involve the fallopian tubes, uterine endometrium, ovaries and cervix[4].

TB of the cervix is reported to be very rare[5]. It has clinical features that are similar to that of invasive cancer of the cervix, hence diagnosis may be missed or delayed and inappropriate treatment given with attendant adverse consequences. We hereby report a rare case of TB cervix whose clinical features were indistinguishable from that of cancer of the cervix.

Case Report

A 31 year old nulliparous lady presented in a private medical facility with intermenstrual bleeding and a yellowish non offensive vaginal discharge of 5 years duration. There was no associated post coital bleeding, loss of weight, night sweats, chronic cough, constitutional symptoms, or any other menstrual abnormality. She had received several forms of treatment in different health facilities for cancer of the cervix in the years preceding presentation. Her sister who had Koch's disease and was also retroviral positive had lived with her for a few years prior to presentation.

General and systemic examination did not reveal

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any abnormality. On speculum exanimation, there was an extensive friable erythematous growth which bled on contact that covered most of the ectocervix and extended to the upper vagina (Figure I). Digital examination revealed a normal sized, anteverted and mobile uterus. There were no adnexal masses and the pouch of Douglas was free. Rectal examination did not reveal any abnormality. A tentative diagnosis of cervical cancer was made.

Chest X-ray,Venereal disease research laboratory test (VDRL), full blood count and erythrocyte sedimentation rate (FBC &ESR),human immunodeficiency (HIV) screening, Mantoux test and ultrasonography did not reveal any abnormality. Her urine sample was negative for acid fast bacilli (AFB).

An examination under anaesthesia was done and punch biopsies of the affected area in the cervix sent for histology as well as GeneXpert analysis. Histology (Figure II) revealed numerous small sized glands lined by normal epithelium and surrounded by dense mixed inflammatory cell infiltrates composed mainly of macrophages, lymphocytes and plasma cells. Scattered in between these inflammatory cells were numerous multinucleated giant cells (foreign and Langhan's types). The GeneXpert test detected *Mycobaterium tuberculosis* that was not resistant to rifampicin which confirmed the diagnosis of Tuberculosis of the cervix.

She was then commenced on anti-TB medication (ethambutol, rifampicin, isoniazid and pyrazinamide) which she had for 2 months, then rifampicin and isoniazid which she had for 10 months. She was reviewed at intervals on out-patient basis and at completion of the medication, her symptoms had all resolved, the lesion had cleared and the cervix looked normal (Figure III). The patient is currently being followed upon out-patient basis.

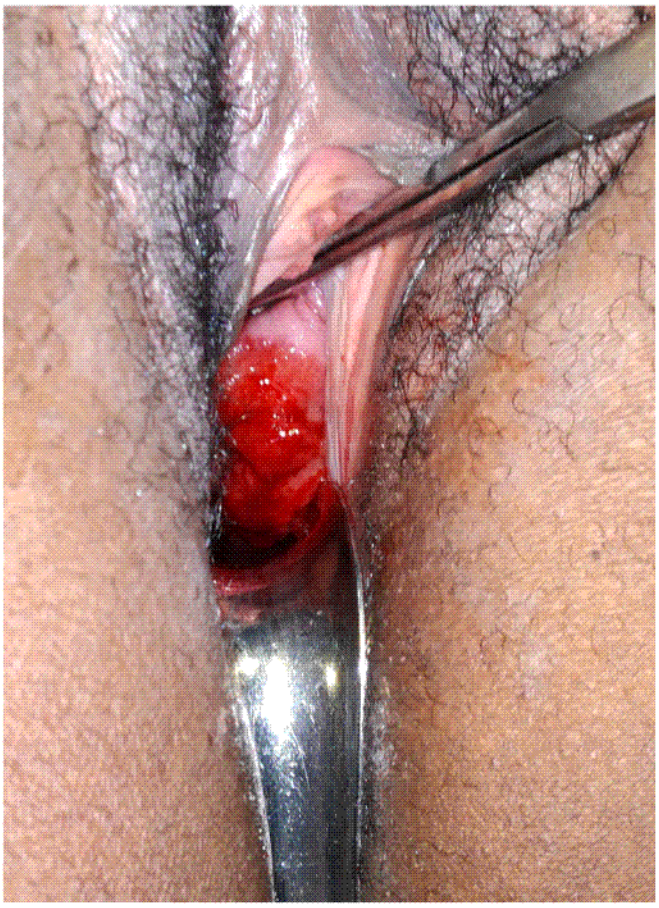

Figure 1: Cervix at presentation, with an extensive friable erythematous growth.

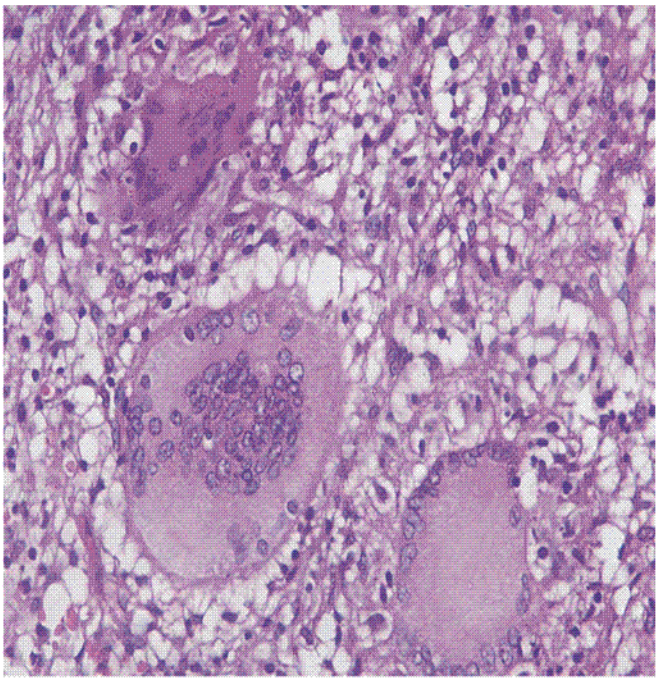

Figure 2: Chronic granulomatous inflammation, with a focus of multi nucleated giant cells.

Figure 3: Normal looking cervix in the same patient after treatment.

Discussion

TB remains a global public health problem and one of the top ten leading causes of death worldwide with developing countries having the highest burden[1]. Nigeria has the highest burden of TB in Africa and is among the eight countries that accounted for two-thirds of the global TB burden[1,2]. Available information indicates that in Nigeria, there has been a constant increase in the number of TB cases notified in the past 4 years[2].

Nigeria presently records about 600,000 new TB cases per annum with at least 200,000 deaths yearly[6]. Available statistics also show that over 80% of TB cases in Nigeria are still undetected with the country having the lowest case detection rate among high TB burden countries with 119,320 of the incident cases being notified in 2019 which both inhibits infection control measures and leads to treatment delay[7].

Genital TB is a rare disease and is mostly secondary to an extra-genital primary infection usually from the lungs, but infection could also come from the lymph nodes, joints and urinary tract[4]. Spread to the pelvic organs is usually by the haematogenous or lymphaticroutes and also by direct extension from an intra-abdominal or peritoneal focus[4]. The fallopian tubes are most frequently affected (95-100%), followed by the uterine endometrium (50-60%) and then the ovaries (20-30%)[8]. Cervical TB which is reported to be extremely rare accounts for 0.1-0.65% of all TB cases and 5-15% of genital tract TB[4]. Although 80% of cases of TB of the cervix are secondary to upper genital tract infection, a primary infection may follow sexual contact with a partner with TB epididymitis or other genitourinary disease or the use of sputum as a sexual lubricant[4,8].

Though patients with genital TB may be asymptomatic, symptoms include abnormal vaginal discharge, weight loss, chronic pelvic pain, and constitutional symptoms like low grade fever and malaise[4]. Other symptoms include amenorrhea, infertility and abnormal vaginal bleeding which could be postcoital, postmenopausal or intermenstrual[8].

The diagnosis of cervical TB can be difficult as clinical features and examination findings are virtually indistinguishable from that of invasive cancer of the cervix and there are no radiological or physical changes specific for the disease[5]. Patients with cancer of the cervix also do commonly present with offensive vaginal discharge, abnormal vaginal bleeding, pelvic pain, loss of weight and constitutional symptoms.

Though the cervix may appear normal when affected by TB, lesions may develop which could be papillary, vegetative, infiltrative, ulcerative, miliary and polypoid growths[4]thus stimulating invasive cancer of the cervix. This may lead to misdiagnosis, wrong treatment and delay in commencing appropriate treatment particularly in our environment where carcinoma of the cervix is not only the most common genital tract malignancy but also the most common cancer in women in certain communities[9].

Our patient presented with intermenstrual vaginal bleeding and a persistent abnormal discharge and was found to have a friable erythematous growth that involved almost the entire ectocervix which bled on contact and was indistinguishable from that of a cancerous cervix.

Diagnosis of cervical TB is usually made by histologic examination of a cervical biopsy specimen[5]. Microscopically, as seen in our patient, there were extensive chronic inflammatory cell infiltrates including macrophages with some forming multinucleated giant cells which suggested a chronic granulomatous inflammation.[5]. Since granulomatous cervicitis can also be found in other chronic diseases like amoebiasis, schistosomiasis, brucellosis, tularaemia, sarciodosis as well as a reaction from a foreign body, detection of the tubercle bacilli is the gold standard for diagnosis[3,8]. This was achieved in our patient using the GeneXpert test which is a nuclei acid amplification test for diagnosis of TB. It is an automatedhemi-nested real time polymerase chain reaction test that can identify *Mycobacterium tuberculosis*as well asresistance to rifampicin and enables the diagnosis of TB in patients likely to be missed by traditional tests[10].

The aim of management of cervical TB is the eradication of the infection and treatment of any complications[3]. Though the National TB guidelines recommends 6 months treatment for extrapulmonary TB, we added additional 4 months continuation phase because the cervical lesions were still visible. Treatment with a combination of anti-TB agents for duration of 9-12 months is reported to provide > 95% cure rates[3].Our patient had anti-TB chemotherapy for 12 month with complete resolution of her symptoms and the disappearance of the cervical lesion.

Tuberculosis of the cervix though very rare, can mimic cervical carcinoma which can lead to delayed diagnosis and inappropriate treatment with all its adverse health consequences. Therefore, in environments such as ours where TB is endemic, clinicians must maintain a high index of suspicion when they encounter patients presenting with signs and symptoms suggestive of cervical cancer and proper evaluation should be carried out to exclude the disease. In our patient, a thorough evaluation resulted in the diagnosis of cervical TB, her symptoms resolved and the cervical lesion disappeared after proper treatment was administered.

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