Case Report

Tuberculosis of Cervix Resembling Cervical Cancer

Nopporn Rodpenpear MD*

** Department of Obstetrics and Gynecology, Faculty of Medicine, Srinakharinwirot University, Nakhon Nayok, Thailand*

A rare case of 40-years-old women presented with yellow-white and clear yellow mucous vaginal discharge, foul smell and itching per vagina 7 months ago. She had pleuritic chest pain and amenorrhea for 2 years. The cervix revealed a hyperemic, irregular in outline, ulcerated, and contact bleeding that similar to cervical cancer. The colposcopic examination showed acetowhite epithelium. Cervical biopsy revealed granulomatous inflammation. Cervical tissue culture was Mycobacterial tuberculosis. Standard anti-tuberculotic drugs treated patient's disease for 6 months. The abnormal vaginal discharge, cervical lesion and chest pain were resolved. Tuberculosis should be an important differential diagnosis of the malignant-appearing cervical lesion in the area that high prevalence of disease, especially Thailand.

Keyword: *Tuberculosis of cervix, Cervical cancer, Cervical lesion*

J Med Assoc Thai 2016; 99 (Suppl. 8): S249-S252
Full text. e-Journal: *http://www.jmatonline.com*

Female genital tuberculosis is rare disease and usually arises secondary to a primary focus elsewhere[1]. Tuberculosis of the cervix is a very rare and accounts for 0.1-0.65% of all tuberculosis cases and 5-24% of female genital tuberculosis[2]. The fallopian tube is the genital organ most commonly affected (95-100%), followed by the endometrium (50-60%) and the ovary (20-30), respectively[1,3]. Although Thailand has high prevalence of tuberculosis[4], a previous case report of tuberculosis of cervix was mostly from India, Nigeria and other countries in that region. There has never been a case report from Thailand and Southeast Asian countries.

Case Report

Thai 40-year-old women, para 1-0-0-1, presented to the gynecological outpatient clinic with abnormal vaginal discharge 7 months ago. An abnormal discharge was yellow-white and clear yellow mucous, foul smell and itching her vagina. She never had abnormal vaginal bleeding and missing her menstrual period 2 years ago. She denied hot flash or menopausal symptoms. She had no a history of postcoital bleeding, dyspareunia, abdominal pain, fever, and loss her weight. The cervical cytological report was reactive cellular change with inflammation, but negative for intraepithelial lesion or malignancy. She took a pain relief medication by herself, which sometimes can improve her symptom but was not disappear. The abnormal vaginal discharge was treated as vaginal candidiasis several times in past 3 months, but the symptom was not improved. She took a combined contraceptive pills for 10 years and stop for 3 months after that she denied using any contraceptive methods. She had no family history of genital malignancy or any significant medical or surgical illness in the past.

Two years ago, she was a chest pain during deep breath and productive cough. Her chest x-ray found minimal pleural effusion at right lung. There was no an infiltrative lesion at both lungs. Chest physician tried to perform thoracocentesis but fail to aspirated effusion. CT scan of the chest was investigated, the result was no pulmonary mass or pleural thickening and pleural effusion was resolve. She had no a history of contact with a case of pulmonary tuberculosis. Her chest physician could not rule out tuberculous pleuritis in differential diagnosis at this moment.

On physical examination, her general and systemic examinations were unremarkable. On speculum examination, the cervix revealed a hyperemic, irregular in outline, ulcerated around cervical os, and contact bleeding (Fig. 1). Uterus was normal size. Both adnexal mass was not palpated and cul-de-sac was free. Inguinal lymph nodes was not enlarged on both sides. Transvaginal ultrasound examination revealed a normal uterus, thin endometrial cavity, normal ovary both side, no adnexal mass was seen, and no free fluid.

Her urine pregnancy test was negative. She took medroxyprogesterone acetate 10 mg per day for 5 days, and she had vaginal bleeding after stop this

Correspondence to:
Rodpenpear N, Department of Obstetrics and Gynecology, Faculty of Medicine, Srinakharinwirot University, 62 Moo 7 Ongkharak, Nakhon Nayok 26120, Thailand.
Phone: +66-37-395085 ext. 10803
E-mail: noppornr@g.swu.ac.th

medication in 3 days (positive progestin challenge test). The hormonal profile was a normal female reproductive level. Serum prolactin and thyroid function test were normal value. Colposcopic examination, the transformation zone was type 1. Before acetic acid application, ulceration was seen around cervical os. After acetic acid application, dense acetowhite epithelium were demonstrated at 4 and 11 o'clock of the cervix (Fig. 2). Coarse punctuation was seen at 4 and 11 o'clock and coarse mosaic was seen at 4 o'clock of the cervix (Fig. 3 and 4). The colposcopic impression was high grade lesion. The colposcopic directed biopsy performed at both lesions and the histological result was granulomatous inflammation. The organism did not found on acid fast bacilli (AFB) stain.

Punch biopsy was carried out in the same area of cervical lesion that was seen under colposcopy. Endocervical tissue from endocervical curettage (ECC) was sent for mycobacteria culture. The result was *Mycobacterium tuberculosis* of both specimens. Furthermore, her human immunodeficiency virus (HIV) status was negative.

The infectious disease expertized physician decided to start anti-tuberculosis drugs for treat tuberculosis of cervix and tuberculous pleuritis. The medications were a combination of isoniazid 300 mg, rifampicin 600 mg, pyrazinamide 1,500 mg and ethambutol 1,200 mg orally daily for 2 months then isoniazid plus pyrazinamide orally for 4 months in same dosage (2IRZE + 4IR formula). The abnormal vaginal discharge and cervical lesion were resolved after starting medications in 2 months. Moreover, pleuritic chest pain was improved in 6 months and her menstruation periods restored to normal cycle in 8 months.

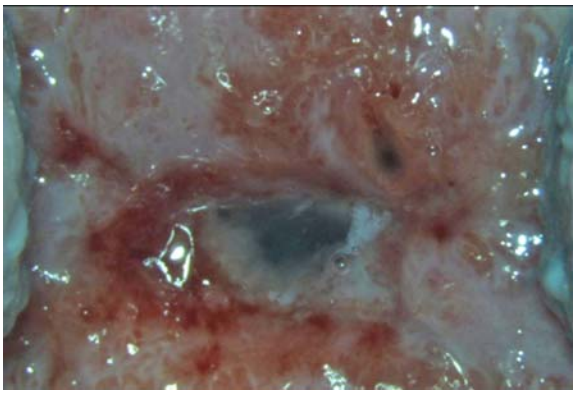

Fig. 1 Before acetic acid application.

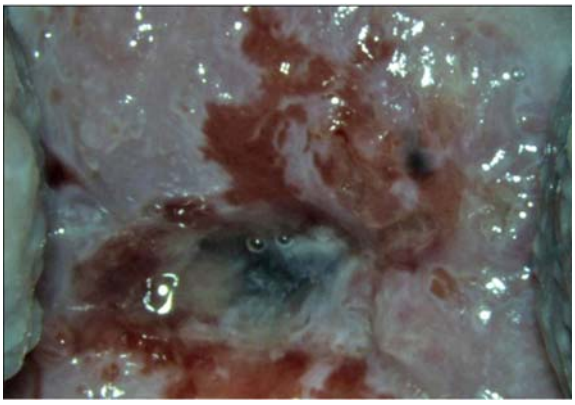

Fig. 2 After acetic acid application.

Discussion

Tuberculosis of cervix is very rare disease and presented with vary symptoms or asymptomatic that not specific for this disease. The typical presentation includes amenorrhea, abnormal menstruation, infertility, vaginal discharges and postmenopausal bleeding[5].

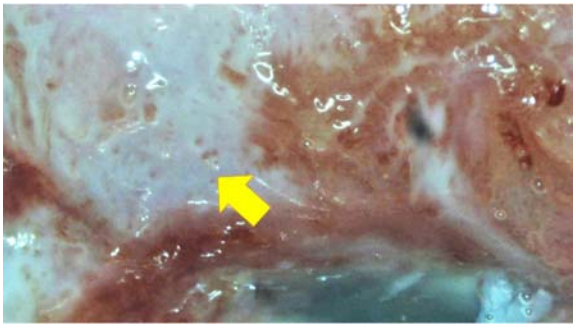

Fig. 3 Coarse punctuation at 11 o'clock.

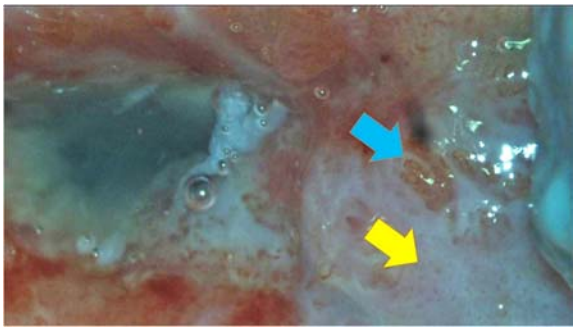

Fig. 4 Coarse mosaic (blue arrow) and coarse punctuation (yellow arrow) at 4 o'clock.

The cause of amenorrhea in this patient may occur from either using combined contraceptive pill for a long time or tuberculous endometritis. Female genital tuberculosis is usually infected by a hematogenous spread from a primary pulmonary tuberculosis. Tuberculosis of cervix often occurs secondary to tuberculous salpingitis and endometritis[5]. Another route of spreading is lymphatic or by direct extension. For this patient, the most likely route of spread is hematogenous from lungs. In rare cases, may be a primary infection, introduced by a male partner with tuberculous epididymitis or other genitourinary diseases. Moreover, there may be hormone dependent nature of female genital tuberculosis, given that 90% of cases occur in the premenopausal age which mostly under 40 years of age[3].

A cervical lesion that velvety, polypoid appearance frequently seen in tuberculosis of cervix, whereas ulceration or destruction of surface epithelium is less common. Nonetheless, it similar to cervical carcinoma in all appearances and no specific colposcopic finding for tuberculosis of cervix[6,7]. This patient, cervical lesion that seen on speculum examination revealed ulceration around cervical os with contact bleeding and high grade lesion for colposcopic impression, so this feature could not certainly rule out cervical carcinoma and tuberculosis of cervix. Endocervical involvement is common and usually results in an increased secretion of mucous[6]. Hence, that is a reason for endocervical curettage for tissue culture in this patient. Moreover, tuberculous endometritis often concurrently occur in tuberculosis of cervix[5], the mycobacterial culture of endometrial tissue from endometrial aspiration is the diagnostic tool. If tuberculous endometritis occurs, it can develop uterine synechiae after infection resolved. In this patient, endometrial aspiration did not perform because if there occur concurrently, the treatment was not different and also had a less invasive purpose for investigation, in addition, it is not a diagnostic tool of tuberculosis of cervix.

Transvaginal ultrasound doses not help to a diagnosis of tuberculosis of cervix. Ascites and peritoneal thickness can assist in diagnosis of peritoneal tuberculosis but should work up other cause, and confirmatory investigation before tuberculosis is diagnosis such as ascites cytology, peritoneal biopsy and peritoneal tissue for mycobacterial culture. Laparoscopic diagnosis is considered the gold standard for evaluating infertility or pelvic pain, caused by genital tuberculosis but has got a little diagnostic value especially to differentiate between pelvic or peritoneal tuberculosis and female genital tract tuberculosis[8]. This patient, she had no pelvic pain, no ascites, and no adnexal mass that suggested pelvic or peritoneal tuberculosis and did not complain about infertility; so, this investigation can omit. Moreover, laparoscopy associated with higher intra-abdominal organ injury in patients with genital tuberculosis because pelvic and abdominal adhesions, that caused by tuberculosis[9].

Histological biopsy of the cervical lesion was granulomatous inflammation which is not diagnostic of tuberculosis; therefore, it is necessary to rule out other causes. The differential diagnosis for a granulomatous disease of the cervix include amoebiasis, schistosomiasis, brucellosis, tularaemia, sarcoidosis and foreign body reaction. Acid-fast bacilli stain is not helpful for diagnosis of tuberculosis. Isolation of the mycobacterium from tissue culture is the gold standard for diagnosis, but a third of cases are negative culture result[10,11]. Therefore, the presence of typical granulomata is sufficient for diagnosis if other causes of granulomatous cervicitis are excluded or a primary focus identified[12]. The cervical lesion should respond to 6-9 months of standard extrapulmonary anti-tuberculosis agents as same as pulmonary tuberculosis[13-15]. Regular follow-up will be necessary to examine the cervical lesion, which would be a marker to access response to treatment[15]. The other important topic is fertility which is generally poor even after treatment, owing to endometrial and tubal involvement at presentation and subsequent healing by fibrosis[13].

Conclusion

While tuberculosis was high prevalence in Thailand, but there has never been a case report of tuberculosis of cervix because the disease may difficult to diagnose or asymptomatic disease. This case emphasizes that despite uncommon in the cervical lesion, tuberculosis should be an important differential diagnosis of the malignant-appearing cervical lesion in the area that high prevalence of disease, especially Thailand.

What is already know on this topic?

Cervical lesion of tuberculosis infected cervix similar to cervical carcinoma.

What this study adds?

Tuberculosis should be differential diagnosed from the malignant-appearing cervical lesion in the area

that high prevalence of disease, especially Thailand.

Acknowledgements

Thankfulness to the Department of Obstetrics and Gynecology, Department of Medicine and Department of Pathology, Faculty of Medicine, Srinakharinwirot University, Nakhon Nayok, Thailand.

Potential conflicts of interest

None.

References

1. Aliyu MH, Aliyu SH, Salihu HM. Female genital tuberculosis: a global review. Int J Fertil Womens Med 2004; 49: 123-36.
2. Carter JR. Unusual presentations of genital tract tuberculosis. Int J Gynaecol Obstet 1990; 33: 171-6.
3. Chowdhury NN. Overview of tuberculosis of the female genital tract. J Indian Med Assoc 1996; 94: 345-6, 361.
4. World Health Organization. Global tuberculosis control: surveillance, planning, financing. WHO report 2007. WHO/HTM/TB/2007.376. Geneva: WHO; 2007.
5. Sabita S, Sharmila V, Arun BT, Sinhasan SP, Darendra S. A Rare Case of Cervical Tuberculosis which Simulated Carcinoma of the Cervix. J Clin Diagn Res 2013; 7: 1189-90.
6. Nogales-Ortiz F, Tarancon I, Nogales FF, Jr. The pathology of female genital tuberculosis. A 31-year study of 1436 cases. Obstet Gynecol 1979; 53: 422-8.
7. Nabi U, Umber F, Nafees M, Khurshid N. Tuberculosis of cervix: A rare clinical entity. Int J Pathol 2012; 10: 41-3.
8. Shahzad S. Investigation of the prevalence of female genital tract tuberculosis and its relation to female infertility:An observational analytical study. Iran J Reprod Med 2012; 10: 581-8.
9. Nezar M, Goda H, El Negery M, El Saied M, Wahab AA, Badawy AM. Genital tract tuberculosis among infertile women: an old problem revisited. Arch Gynecol Obstet 2009; 280: 787-91.
10. Agrawal S, Madan M, Leekha N, Raghunandan C. A rare case of cervical tuberculosis simulating carcinoma cervix: a case report. Cases J 2009; 2: 161.
11. Ahmed S, Oguntayo A, Odogwu K, Abdullahi K. Tuberculous cervicitis: A case report. Niger Med J 2011; 52: 64-5.
12. Samantaray S, Parida G, Rout N, Giri SK, Kar R. Cytologic detection of tuberculous cervicitis: a report of 7 cases. Acta Cytol 2009; 53: 594-6.
13. Lamba H, Byrne M, Goldin R, Jenkins C. Tuberculosis of the cervix: case presentation and a review of the literature. Sex Transm Infect 2002; 78: 62-3.
14. Dutt AK, Stead WW. Treatment of extrapulmonary tuberculosis. Semin Respir Infect 1989; 4: 225-31.
15. Gupta A, Gupta MM, Mankatala U, Khurana N. Primary tuberculosis of cervix mimicking carcinoma: A rare case. J Midlife Health 2014; 5: 95-7.

รายงานผู้ป่วยวัณโรคที่ปากมดลูกที่คล้ายมะเร็งปากมดลูก

นพพร โรจน์เพ็ญเพียร

ผู้ป่วยหญิงไทยอายุ 40 ปี มาโรงพยาบาลด้วยอาการตกขาวสีเหลืองขุ่นและสีเหลืองใส มีกลิ่นเหม็นและคันภายในช่องคลอดมา 7 เดือน ก่อนมาโรงพยาบาลผู้ป่วยขาดประจำเดือนและมีอาการเจ็บหน้าอกเวลาหายใจมานาน 2 ปี ตรวจภายในพบรอยโรคที่ปากมดลูกลักษณะเป็นแผลสีแดงรอบปากมดลูก ขอบเขตไม่เรียบเนียนและมีเลือดออกเวลาสัมผัสซึ่งมีลักษณะคล้ายรอยโรคของมะเร็งปากมดลูก ส่องกล้องตรวจปากมดลูกและตัดชิ้นเนื้อส่งตรวจทางพยาธิวิทยาพบ Granulomatous inflammation และผลเพาะเชื้อพบ Mycobacterial tuberculosis ผู้ป่วยได้รับการรักษาด้วยยาต้านวัณโรคนาน 6 เดือน หลังจากนั้นอาการตกขาวผิดปกติ รอยโรคที่ปากมดลูกและอาการเจ็บหน้าอกเวลาหายใจได้หายไป วัณโรคจึงควรเป็นโรคหนึ่งในการวินิจฉัยแยกโรคของรอยโรคปากมดลูกที่คล้ายมะเร็งในพื้นที่ที่มีความชุกของวัณโรคสูงโดยเฉพาะประเทศไทย
