

Case Reports

Post Operative Tuberculous wound infection: A report of 6 cases

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Abstract

Post-operative wound infection by tuberculosis may cause delayed wound healing. Such wound infection by tuberculosis was found in 6 cases in the Obstetrics and Gynecology Department of Dhaka National Medical College & Hospital from July 2000 to December 2009. All patients had no complaints except for delayed wound healing. None had history of exposure or relevant past history of tuberculosis. Tuberculous infection was diagnosed by histopathological examination of the tissue from the wound. All of the patients were treated with standard anti-tubercular drugs for 6 months and they responded well.

Key words: Caesarean section, Granuloma, Tuberculosis, Wound healing, Wound infection

Introduction

Tuberculosis is a common and serious infection. It is a major public health problem in Bangladesh since long. It is also a public health problem worldwide.¹ Pulmonary infection is the commonest form of the disease, though the bacteria can cause systemic infection in virtually any organ. Surgical wound infection due to *Mycobacterium tuberculosis* is a rare entity.^{2,3} During the period of July 2000 to December 2009, six cases of post operative wound infection by tuberculosis were identified conveniently in the Obstetrics and Gynecology Department of Dhaka National Medical College & Hospital. All of the patients complained of delayed wound healing for a variable period of time and each of them had sero-sanguinous fluid discharge from the wound. Five cases underwent lower segment caesarean section (LSCS) and one patient had abdominal hysterectomy. In all the cases, the diagnosis was confirmed by histopathological examination of the tissue from the wound. The slides revealed characteristic granulomata consistent with that of tuberculosis. Chest X-rays and Full Blood Counts were also performed.

The patients were treated with the standard anti-tubercular regime of four drugs (Rifampicin, Isoniazid, Pyrazinamide, Ethambutol) for six months, as recommended by WHO.¹ This treatment was administered in collaboration with the department of Medicine. All cases responded well to the treatment. In this report, I present the six cases.

Case 1

A 32 year old lady, Para 2 + 0 (P2+0) from a middle class family, presented with discharge for a period of 6 months from a point in her caesarean section wound. There was no

complaint of fever or weight loss. For her continuous discharge after the caesarean section, she had been given several antibiotics according to Culture and Sensitivity (C/S) reports and received a secondary suture one and a half months after the caesarean section, but to no avail. Although her chest radiograph was unremarkable and Mantoux test negative, the ESR was 60 mm. After admission, expecting a sinus, the wound was explored and indeed a sinus extending up to the umbilicus was discovered and hence cleared after sending tissue samples for histopathology. The wound was then closed. The biopsy report revealed epithelioid cell granulomas suggestive of tuberculosis. After institution of standard anti-tubercular drug therapy (4 drug combination), the lady started to improve and she completed the six months therapy.

Case 2

Hailing from a middle class family, a young 25 year old woman (P1+0) presented with wound infection after undergoing LSCS three months ago. The discharging wound was her only complaint. In vain she received various culture sensitivity guided antibiotics here. She went abroad where she received the same treatment. Despite daily dressing and antibiotics, the wound failed to heal. Excepting an ESR of 65 mm, all investigations were within normal limits. Histopathology of tissue taken from the wound margin, showed the presence of caseating granulomata with epithelioid cells. The patient was cured after treatment with the standard anti-tubercular regime.

Case 3

A 45 year old mother of three, coming from a middle class background had a total abdominal hysterectomy three months back, but the pfannenstiell incision wound had been unhealthy since. Within fifteen days of the operation, secondary suturing and chemotherapy as directed by C/S reports had been given, but the wound did not heal. Re-suturing was done for a second time; yet there was continuous discharge from the wound. Repeat investigations were done: there was leucopenia and lymphocytosis with a high ESR (80mm in first hour). Other tests were normal. When the wound was explored again, multiple sinuses in the abdominal wall were found, ascending up to the umbilicus. The area had to be debrided meticulously and was closed after sending biopsy samples. Epithelioid cells and granulomata consistent with that of tuberculosis was the conclusion of the histopathology report. The patient responded well to antitubercular drugs.

Case 4

Having had an LSCS, a young lady of 25 years from the lower middle class, came with the wound infected after two weeks of being discharged from the hospital, but without any signs of acute inflammation. There was no fever, nor tenderness; only discharge. It had improved on administration of antibiotics following the C/S, two weeks after which secondary suturing had been done. Later on, however, the wound gaped with discharge. Routine investigations revealed a high ESR (70mm in first hour) but no other abnormality. The histopathologic study of tissue taken from the wound margin reported granulomatous inflammation with presence of epithelioid cells. Anti-tubercular therapy was given and found to be effective.

Case 5

Aged 32 years, a woman (P3+0) of upper middle class family status had an LSCS because of two previous caesarean deliveries. She had been discharged when, on stitch removal, the wound was found healthy. A month afterwards, the patient developed discharge from the margin of the wound. She did not improve when culture sensitivity based chemotherapeutics and daily dressing had been instituted. ESR was not alarmingly high (40 mm in first hour). Wound margin biopsy tissue sent for histopathologic examination was found to contain caseating and non-caseating granulomata. The patient was treated with standard anti-tubercular drugs and showed good response.

Case 6

A 20 year old woman of middle socioeconomic status presented with a history of LSCS seven months back, with discharge from the wound resulting in wound dehiscence. She was discharged from the hospital a week after her caesarean

section. After sixteen days of being released from the hospital, the patient developed swelling and discharge from the wound; and went to a clinic. There she was treated with antibiotics and secondary suture was given. Within ten days of the secondary suturing, the wound had swollen again and there was discharge. She remained with these problems for three more months and finally came to our hospital. The patient was treated with antibiotics according to the C/S report, but without any improvement. Tissue samples from the wound margin were sent for histopathology and upon discovery of granulomatous inflammation, the patient was treated with standard anti-tubercular drugs. She responded well during the three week hospital stay.

Discussion

Tuberculosis is a major health problem in developing countries.⁴ In Bangladesh the prevalence/disease burden in 2008 was 659,586 persons.⁵ Various Mycobacteria produce cutaneous infection, but surgical wound infection is rare.^{2, 3} I have detected only six cases over a period of nine years.

Five of my patients were post operative cases of lower segment caesarean section and they were all of reproductive age, ranging from 21 to 40 years. One, however, who had undergone total abdominal hysterectomy, was aged above 40 years. This finding is like previous reports where most infections were found in patients between 25 to 40 years.^{6, 7} In few of the other series, ages were above 58 years.^{2, 8, 9} Excepting one patient from the low middle class, all other belonged to either the middle class or the upper middle class.

Patients had no past history of tuberculosis and none had been in contact with any patient of tuberculosis. Three patients however had a positive Mantoux test. The ESR was high in all of the cases ranging from 40 to 80 mm in the first hour. Chest X-rays were negative for all cases. The cases were all diagnosed by histopathological evidence of tuberculous granulomata.

Histologic study was also the diagnostic tool in other studies.^{2, 6, 7, 8, 10} Tuberculin skin test (Mantoux test) is not a useful diagnostic aid and suitable only as a screening test. This inference is inconsistent with the findings of other studies, where histopathologic study was not the diagnostic tool. Culture for Mycobacterium could not be done due to limited resources at our clinical setting.

Five patients responded well with standard anti-tubercular drugs and had no residual complications. They were under regular follow up and completely symptom free. Only one patient (Case 6) did not return for follow up.

After the initial infection of primary tuberculosis in the primary sites, there is dissemination of tubercular bacilli to

remote parts of the body.⁷ The host's immune system becomes sensitized. In 90% of immunocompetent people, there are no clinical manifestations, but the infection remains for years, probably for life.¹¹ The individual who has such an infection may later develop clinical disease depending on the immune status.

Secondary tuberculosis is the pattern of disease that arises in such a previously sensitized host. It may follow shortly, but more commonly occurs decades after initial infection particularly when host resistance is weakened.¹² Due to this waning of protection, secondary tuberculosis may result from (a) exogenous reinfection, as occurs in geographical regions of high endemicity, or more commonly from (b) reactivation of a latent primary focus with haematogenous spread to the site of the secondary infection or (c) local reactivation at the secondary site.⁷

Decreased immunity due to trauma may allow reactivation of latent bacteria at a distant focus, (which may be occult and undetectable on a chest X-ray) and result in subsequent seeding of the infection site.⁷ Local reactivation can be precipitated by trauma or surgery, or any factor or insult that alters local tissue response. These again include injury, surgery, local vascular derangements, foreign body reactions or even chronic inflammation.⁷

In summary, we diagnosed six cases presenting with prolonged post operative non-healing wounds as wound infection by tuberculosis. They were treated with standard anti-tubercular drugs and responded well. Hence, we should consider tuberculosis while treating such patients because of the high endemicity of the disease in our region.

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