Tuberculosis kills a pregnant mother

Vidanapathirana M[1], Dahanayake KS[2]
[1]Senior Lecturer, [2]Postgraduate trainee, Department of Forensic Medicine, Faculty of Medicine, University of Ruhuna, Karapitiya, Galle.

Case report

A 26 years old primigravida, in her 38th week of pregnancy, had developed sudden onset haemoptysis and haematemesis, followed by cardio-respiratory arrest, which was refractory to cardio-pulmonary resuscitation (CPR). A very mild cough, for few months, which had never been documented, was the only significant past medical history.

Autopsy revealed marked pallor, aspirated blood in the respiratory tract and swallowed blood in the stomach. A firm mass measuring 4 x 3 cm was felt in the upper lobe of the right lung towards its apex (Fig 1). The interior of the mass consisted of firm, whitish tissues characterized by caseating necrosis, cavitation and erosion. The mass encompassed the upper lobar bronchus and pulmonary blood vessels, and showed evidence of erosion and destruction of their walls. No areas of patchy or diffuse congestion, consolidation, pus formation detected in the rest of the lung tissues. No significant hilar or mediastinal lymphadenopathy was detected.

Haematoxylin and eosin (H&E) section of the right lung tissues (Fig 2) involving the mass showed multiple foci of granulomatous inflammation with central caseating necrosis, surrounded by Langerhan's type Giant cells and epithelioid cells. The periphery of the area composed of a zone of fibroblasts and lymphocytes. The surrounding architecture of the lung was preserved and vascular congestion was present. There was no evidence of broncho-pneumonia, lobar pneumonia or neoplasia. The Ziehl-Neelson stain was performed and bacilli were detected. The rest of the organs were histopathologically normal.

Finally the cause of death was given as

I. (a) haemorrhagic shock due to

(b) erosion of a major pulmonary blood vessel due to

(c) progressive pulmonary Tuberculosis (TB).

II. Contributory factor- Pregnancy

Comments

The progressive nature and the involvement of large blood vessel signified the rapid death in this case. This further confirms the fact that the condition was refractory to CPR and the baby could not be saved, despite prompt and proper emergency medical management.

Discussion

Tuberculosis is still a public health problem in Sri Lanka. About 6000 cases of Tuberculosis are notified every year and around 60% are smear-positive pulmonary TB cases[1]. Although most studies find that Tuberculosis is more likely among men than women after the beginning of adolescence. It nevertheless appears that more women than men of reproductive age are likely to develop the disease. Up to 80% of all deaths among women due to Tuberculosis occur during the childbearing years [2]. Thus it is likely that a large number of pregnant women have coexisting Tuberculosis**.**

Very little data is available on the contribution of TB to maternal mortality, although some of the recent studies have shed light on maternal mortality on coexistent Human Immunosuppressive Virus (HIV) and Tuberculosis. Fifty four percent of maternal deaths caused by tuberculosis were attributable to Human Immunosuppressive Virus-1 infection [3]. Research is needed to understand the true incidence and prevalence of Tuberculosis during pregnancy, and its contribution to maternal mortality.

Studies differ on whether the rate of progression of Tuberculosis changes during pregnancy. Studies to date suggest that if effective chemotherapy is given, tuberculosis need not be any more risky during pregnancy than it would be otherwise [4]. However, the effect of pregnancy on untreated or inadequately treated tuberculosis is still an open question. Further research is needed to assess whether pregnancy or puerperium alter the progression of Tuberculosis and the factors influencing its progression in pregnant women.

Some studies have shown that pregnant patients with active tuberculosis have few of the typical symptoms[5]**.** Moreover, routine chest radiography is contraindicated in the first trimester. These might lead to delay in diagnosis of the condition for pregnant women. Research is needed to understand whether pregnancy and puerperium mask the symptoms of TB, and causing differences in diagnosing the condition among pregnant women vs non-pregnant women and men.

There is general agreement that appropriately treated Tuberculosis does not worsen the outcome of pregnancy. However, since several women in developing countries do not have access to prompt and complete treatment, greater understanding is needed on the influence of untreated Tuberculosis on both maternal and fetal outcome of pregnancy.

Figure 1 - Preserved lung specimen - cavitating mass with erosion of the bronchi and vessels

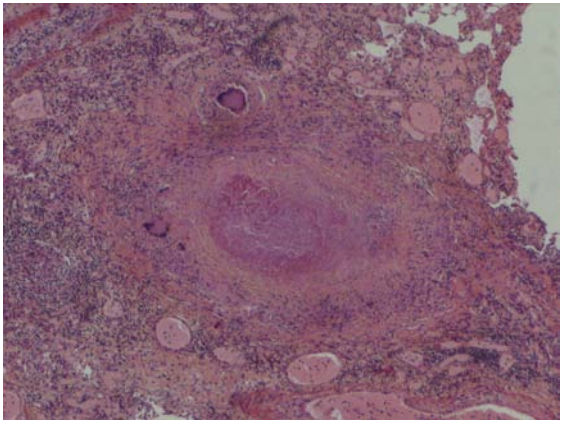

Figure 2 - Photomicrograph of lung-caseating granuloma

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