CASE REPORT

Contralateral Pleural Effusion during Chemotherapy for Tuberculous Pleural Effusion

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Summary

A 25 year old woman developed a right pleural effusion 6 weeks after commencement of short course chemotherapy for left sided tuberculous pleural effusion. Since the patient improved following continuation of the same treatment, it is presumed to be a case of paradoxical response to anti-tuberculosis treatment.

Key Words: Tuberculosis, Pleural effusion

Case Report

A 25 year old female presented with intermittent low grade fever and weakness for two months. There was no history of cough, chest pain, urinary or bowel complaints. Physical examination revealed the signs of a left pleural effusion that was confirmed on chest radiograph (Fig. 1) and ultrasound. The ESR was 85mm/1st hour and there was a 16mm induration to 5-TU of purified protein derivative. At thoracocentesis, straw coloured fluid was aspirated, the cytology of which showed a lymphocytic predominance. Sputum and pleural fluid were negative for acid-fast bacilli. Daily treatment with rifampicin (600mg), isoniazid (300mg) and pyrazinamide (2.0g) was begun. With treatment, the fever responded and the patient improved clinically. Chest radiograph (Fig. 2) at 6 weeks revealed a right pleural effusion and complete disappearance of the left pleural effusion. The right sided pleural effusion was confirmed by ultrasonography. We considered right sided pleural effusion to be a paradoxical response and treatment with rifampicin, isoniazid and pyrazinamide

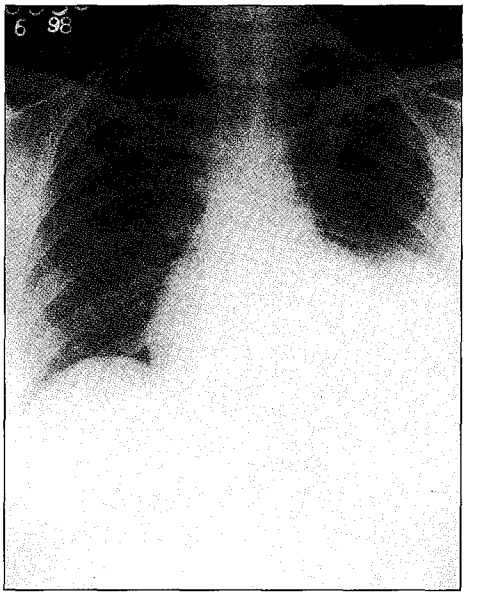

Fig. 1: Posteroanterior chest radiograph showing left pleural effusion.

was continued. Prednisolone was not given. There were both clinical and radiological improvement. She completed six months of anti-tuberculosis treatment.

Discussion

Unusual expansion or new formation of a tuberculous lesion during treatment has been referred to as paradoxical response. This has frequently been described in cases of tuberculous lymphadenopathy or intracranial tuberculoma. In contrast, development of tuberculous pleural effusion during chemotherapy of pulmonary tuberculosis and worsening of tuberculous pleural effusion following the start of anti-tuberculosis treatment has been observed in only a few cases. In our patient, contralateral pleural effusion was observed six weeks after the start of anti-tuberculous chemotherapy. The development of contralateral pleural effusion in a patient with tuberculous pleural effusion on chemotherapy is rare. We were able to find only one similar case reported in the literature[1]. Vilaseca *et. al* reported right pleural effusion 8 weeks after standard chemotherapy for tuberculous pleurisy on the left side had been started[1].

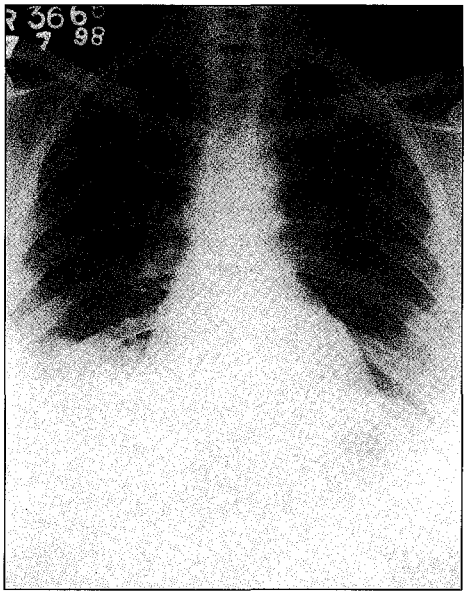

Fig. 2: Chest radiograph after 6 weeks of chemotherapy showing right pleural effusion and resolution of left pleural effusion.

Tuberculous effusion occurs after a primary tuberculous infection and less commonly as a complication of established active pulmonary or extra pulmonary tuberculosis. With regard to pathogenesis, Matthay suggested the rupture of small subpleural abscesses into the pleural cavity or haematogenous dissemination as a possible mechanism[2]. The rupture of a peripheral focus or a caseous lymph node into the pleural space with subsequent seeding of tubercles on the pleura was considered by Crofton and Douglas[3]. Vilaseca suspected the rupture of tuberculous lymphnodes which were not visible on chest radiograph in his reported case of contralateral pleural effusion during chemotherapy for tuberculous pleurisy[1]. Many researchers speculate that the interaction between the host's immune response and the direct effects of mycobacterial antigen is responsible for paradoxical response to anti-tuberculous treatment. More data regarding the host's immune response in similar cases are necessary for a better understanding of the pathoetiology of paradoxical response.

Development of contralateral pleural effusion during the anti-tuberculous treatment for tuberculous pleural effusion is very rare and in our judgement no change in therapy is indicated unless there are other unfavourable signs.

References

1. Vilaseca J, Lopez-Vivancos J, Arnau J, Guardia J. Contralateral pleural effusion during chemotherapy for tuberculous pleurisy. Tubercle 1984; 65: 209-10.
2. Matthay RA, Neff TA, Iseman MD. Tuberculous pleural effusions developing during chemotherapy for pulmonary tuberculosis. Am Rev Respir Dis 1974; 109: 469-72.
3. Crofton J, Douglas A. Respiratory diseases. 3rd ed. London: Black Well Scientific Publication, 1981: 312.