

SURGICAL INTERVENTION IN TREATMENT FAILURE MULTIDRUG-RESISTANT TUBERCULOSIS

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Surgical operations for the treatment of TB have a long history, predating the discovery of *M.tuberculosis*. For almost two centuries before the introduction of effective anti-TB medicines, surgery was one of the main treatment options for TB.¹⁻⁵ In 1726, the British surgeon E. Barry drained a purulent TB lung cavity (pneumonectomy).³ In 1882, Carlo Forlanini introduced collapsotherapy into the treatment of pulmonary TB, provoking artificial pneumothorax.⁶ However, it was only after the development of radiographic imaging methods and the introduction of the manometer that surgical procedure became safer and more reliable.² After the discovery of *M. tuberculosis* by Robert Koch in 1882, surgical intervention remained one of the most common therapeutic options for the TB patients, although this approach was not always successful. In 1890, Splengler successfully performed thoracoplasty⁵ and in 1891, Theodore Tuffier performed lung resection in a TB patient.⁵ In the period 1910-1912, Hans Christian Jacobus thoracoscopy and an effective operation for closed cauterization of pleural adhesions.² In 1933, Heidenhain Lilienthal performed the first successful pneumonectomy for TB treatment, and first lobectomy was reported by Samuel Freedlander in 1935.² In 1947, L.K. Bogoush performed the first pneumonectomy in the former Soviet Union for the treatment of a patient with progressive cavitary pulmonary TB.⁵ With the introduction of modern anti-TB chemotherapy in 1952, surgery was largely abandoned¹ and, until the present day, chemotherapy has been treatment method for TB, including its drug resistant forms.

The global spread of multidrug-resistant (MDR) and extensively drug-resistant (XDR) strains of *M. tuberculosis* have resulted in a resurgence of almost

incurable and even fatal cases for which only a few therapeutic options are available. Surgery has been applied to improve treatment success rates in MDR-TB patients and a combined medical and surgical approach is increasingly being used to treat patients with M/XDR-TB.⁷⁻⁸

Judiciously performed adjuvant surgery can yield excellent long term bacteriological cure with acceptable mortality and morbidity in multidrug-resistant tuberculosis. In a study done at Peshawar, 135 cases of multidrug-resistant tuberculosis in whom surgical cure was attempted after being declared treatment failure were carried out at department of Thoracic Surgery, Lady Reading Hospital, Peshawar, Pakistan between the years 2002-2014. All were sputum positive at the time of surgery. Majority of patients were treated with pulmonary resections Post operatively 2nd line anti tubercular chemotherapy was prescribed for 24 months. At a mean follow-up of one year bacteriological cure (-ve Sputum microscopy & Culture) was achieved in 120 patients.

Although surgery is not formally part of WHO guideline for MDR-TB, it is being evaluated and may very soon become an integral part of treatment failure MDR-TB.⁹

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