How private hospitals' treatments in Indonesia are supportive towards the environment: A retrospective study

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Abstract. Tuberculosa represent of orthopaedic challenge, a disease caused by Mycobacterium tuberculosis, one of the most common problem in the developing countries. Indonesia the most TB contributing country. Tuberculosa a Multi-Systemic Disease with Intra Pulmoner or Extra Pulmoner Tuberculosa manifest, One of the Extra Pulmoner Tuberculosa form is musculoskeletal TB, involvement as for spondylitis TB. This study aimed to evaluated Spondylitis TB profile and for database for next study at RSO Prof. DR. R Soeharso dan RSU. Dr. Moewardi Surakarta. The retrospective study included all patients diagnosed with Spondylitis tuberculosa with operative treatment in Prof. DR. R Soeharso Orthopaedic Hospital Surakarta from January 2017 to Desember 2017. This research was conducted by gathering patients’ data and evaluating them based on neurological post-operative with ASIA Score. Seventy-five patient with Spondylitis tuberculosa, 54 patients was treated in RSO Prof. Dr. R. Soeharso, and 21 patients was treated in RSU dr. Moewardi. There are 35 male (%), and 40 female (%), with average 35 years old. With involved region of Spondylitis tuberculosa are 5 patient Cervical spine, 22 patient Thoracal spine, 21 patient Lumbar spine, 27 patient Thoracolumbar spine. Most operative treatment are Debridement, laminectomy, posterior stabilization for 47 patient. With good neurological outcome after 3 month are 66 case (89%). Spondylitis tuberculosa majority on adult (productive age) with most predilection on thoracolumbar region. With good outcome on Debridement, laminectomy and stabilization treatment.

1. Introduction
Tuberculosis (TB) is an important public health problem in this world [1]. In 1992 the World Health Organization (WHO) launched tuberculosis as "Global Emergency". A WHO report in 2004 stated that there were 8.8 million new cases of tuberculosis in 2002, of which 3.9 million were positive cases of acid-fast bacilli (Basil). Every second there is one person who is infected with tuberculosis in this world, and one third of the world's population has changed tuberculosis bacteria [1].

Tuberculosis is a disease caused by Mycobacterium tuberculosis. Tuberculosis is a disease that is often found in developing countries2. Indonesia is one of the countries that contributed greatly to the morbidity caused by tuberculosis after India and China [2,3].

In developing countries there are two peaks in the age of Tuberculosis [2,3]:

- Age 20-40 years: in immigrants or patients with HIV infection
- Age 60-80 years: caused by immunosuppressant’s

In Indonesia it is estimated that there are more than 1 million new active cases, where the probability of suffering from Tuberculosis 234 / 100,000 people, this makes the iceberg phenomenon where 1: 3 has not been recorded [2,3].

Tuberculosis infection is not only in the respiratory system, but can be multisystemic, where manifestations can occur [4]:

- Tuberculous pulmonary, and
- Tuberculous Pulmonary Extras (Extra Pulmonary Tuberculosis)

And one form of Extrapulmonary Tuberculosis (EPTB) is musculoskeletal Tuberculosis [4,5]. Spinal involvement will aggravate morbidity due to the potential for permanent deformity and neurological deficits. Ironically, the spine is the most common site of bone and joint tuberculosis infection [6,7]. Tuberculosis germ culture is the gold standard in diagnosis, although there are difficulties in getting a positive culture [7,8]. Modern imaging techniques should be used to identify the location and extent of disease involvement so that management can be adjusted individually. Management of tuberculosis spondylitis is intended to eradicate infection, provide stability to the spine and stop or repair kifosis [8,9].

2. Methods

This research is a Descriptive Retrospective research type with research time between January 2017-December 2017 in RSO Prof. dr. R. Soeharso and RSU Dr. Moewardi Surakarta data collection method using patient medical records. Variabel data to be described include gender, age, location of lesions, treatment, and outcomes. The samples were all tuberculous spondylitis patients who underwent surgery in the RSO Prof. dr. R. Soeharso and RSU Dr. Moewardi Surakarta during the January 2017-December 2017 period in addition to outpatients and patients who refused to take operative measures.

3. Results and discussion

From the results of medical record research on patients diagnosed with Spondylitis tuberculosis who underwent surgery at the RSO Prof. dr. R. Soeharso and RSU Dr. Moewardi Soerakarta during the period of January 2017 to December 2017 obtained a total of 75 patients.

![Figure 1. Chart distribution of the number of patients in RSOS and RSDM.](image)

Percentage of 90% of patients diagnosed at RSO Prof. dr. R. Soeharso and 10% of patients diagnosed at RSU dr. Moewardi. Medical record research shows the results of the research variable data as follows:

3.1. Gender

Tuberculous spondylitis is more common in women than in men. From the results of this study, 86% of patients were male, while 14% were female.
3.2. Age
In this study, the age range of patients with Spondylitis tuberculosa was 16 years to 63 years. Distribution based on the highest age group 62% occurs at the age of 21-50 years, followed by the age of 10-20 years 21.5% and 15.5% aged > 50 years.

4. Conclusion
Although it is said that the incidence of bone and joint TB is around 1-3% of all TB cases, this cannot make health workers excuse for not paying more attention to this case.

- Tuberculous spondylitis or Pott’s disease is a chronic destructive granulomatous inflammation by Mycobacterium tuberculosa. In children usually tuberculous spondylitis infection comes from primary focus in the lungs, whereas in adults the spread occurs from extra pulmonary focus (intestine, kidney, tonsils).
- The diagnosis of tuberculous spondylitis can be established by seeing clinical manifestations such as localized spinal pain, perivertebral swelling, systemic signs and symptoms of TB, signs of neurological deficits. Accompanied by physical examination and supporting investigations.
- Investigations in tuberculous spondylitis include laboratory tests in the form of LEDs, tuberculin skin test / Mantoux test / Tuberculine Purified Protein Derivative (PPD), morning urine culture, microscopic examination with Ziehl-Nielsen, blood tests for anti-staphylococcal titers and anti-streptolysin haemolysins, check CSF, ELISA, PCR, and IGRA test. Then radiology examination included X-ray, CT scan, MRI, CT guided needle biopsy.
- Management of tuberculous spondylitis can be given conservative and operative therapy as indicated.

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