

POTT'S SPINE IT'S MANAGEMENT IN AYURVEDA

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ABSTRACT

Treatment of TB in *Ayurvedic* system poses a difficult challenge to Ayurvedic physician. More than one hundred formulations are reported to have anti TB activities in *Ayurvedic* classical books but none of these proved to be significant in treating patient with TB. We here in report a confirmed case of Pott's spine who after twelve months regular *Ayurvedic* treatment recovered from disease clinically and radiologically. Patient had infection of *Mycobacterium tuberculosis* revealed from the culture of drained abscess. The MRI of thoraco lumber spine of the patient showed discitis of D12- L1discs with osteomyelitis involving vertebral bodies from D8 to L1. During treatment, 16 kg of weight gained by the patient. Now he has no fever and no back pain. His appetite is good. The overall recovery of the patient from such a destructive disease is excellent. Though treatment is given to only one patient but results indicate that drug is very much useful for the treatment of TB. It is safe, cost effective and in use for the treatment of cough, cold and other nasal disorders since centuries. Results pave the way for further study of the drug in novel drug regimen.

Keywords: *Pott's spine, Magnetic Resonance Imaging (MRI), Multi Drug Resistant Tuberculosis (MDR TB), Rajyakshma, Shosha, Snehan, Samshodhan (Detoxification)*

INTRODUCTION

Vertebral tuberculosis (TB) is the commonest form of spine disorder accounts for 50% of all cases of musculoskeletal TB (Gautam *et al.*, 2005). It is more common in children and young adults (Garg and Somvanshi, 2011). If treatment is overlooked it might lead to significant neurologic complications. In conventional medicine disease is popularly known as Pott's spine. The name traces back its origin from the description of tuberculous infection of the spine by Sir Percival Pott in his monograph in 1779 (Dobson J. *et al.*, 1972). The exact incidence and prevalence of spinal tuberculosis in most part of the world are not known. In countries with high burden of pulmonary tuberculosis, the incidence is expected to be proportionately high. Approximately 10% of patients with extrapulmonary tuberculosis have skeletal involvement. The spine is the most common skeletal site affected, followed by the hip and knee. Despite its common occurrence and the high frequency of long term morbidity, there are no straight forward guidelines for the diagnosis and treatment of spinal TB. Early diagnosis and prompt treatment is necessary to prevent permanent neurological disability and to minimize spinal deformity (Jain 2010, Jain and Dhamami, 2007). Anti tubercular therapy remains the cornerstone of the treatment. Although multi drug- resistant tuberculosis (MDR-TB) is not common in spinal disease, there have been a few recent case reports (Pawar *et al.*, 2009). There is an urgent need to develop new anti TB drugs highlighted by the ongoing rise in TB cases worldwide. TB has been recognized in the science of *Ayurveda*. *Maharishi Charaka* (2000 BC) identified the disease and called it as *Rajyakshma* (Shastri and chaturvedi, 1970) while *Maharishi Susruta* (800 BC) named the ailment as *Shosha* (Sharma, 2005). More than one hundred formulations are reported in various *Ayurvedic* classical books to have anti -TB activities. If evaluate methodically they may generate some curative or supportive remedy for sufferers of this disease. Here we report a case suffering from Pott's spine, who given treatment with *Ayurvedic* system, recovered from disease successfully.

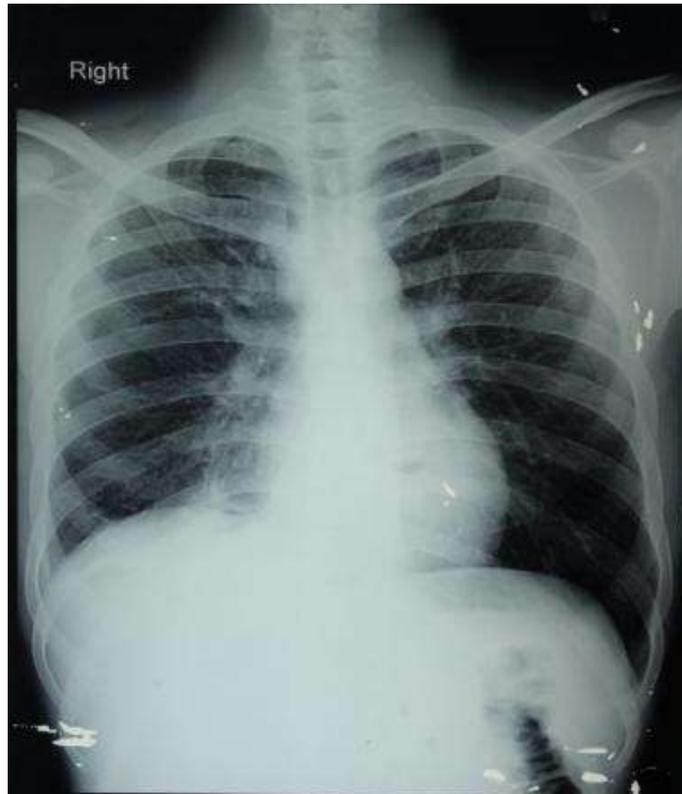


Figure 1: Chest roentgenogram showing Tubercular mild right pleural effusion



Figure 2: Lumbosacral Spine X-ray (AP and Lateral View) showing reduced disc space between D 11 and 12 (Pott's Spine)

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Figure 3: MRI showing osteomyelitis at the level D 12 L 1 disc and right paraspinal abscess

CASES

A 23 year old male presented to Out Patient Department of the institute in April 2013 with complaint of severe back pain, evening rise of temperature, night sweats, weight loss, malaise and loss of appetite. He had received six month anti TB treatment for Pott's disease (PD) from April 22nd to October 31st 2012. Chest roentgenogram dated 21-04 2012 of the patient showed mild right pleural effusion (Figure 1). Lumbosacral spine x- ray, (antero posterior and lateral view) of the patient revealed reduced disc space between D11 and D12 (Figure 2). He had been treated with R-rifampicin, H-isoniazid, E-ethambutol and Z- pyrazinamide. On admission, patient temperature was 101.4⁰ F, pulse rate 86 per minute, blood pressure 106/68 mm Hg. and respiration rate 20 breaths per minutes. He was noted to have multiple enlarged, non tender, soft, mobile cervical and infra mandibular lymph nodes. Chest was resonant on percussion. Patient lost his 6 kg weight in past three months. Inspection of his back revealed 4x5 cm well demarcated fluctuant abscess at L1-L2 level adjacent to right posterior para spinal muscle without erythema, tenderness or other skin changes. There was a local tenderness on the lower thoracic and lumbar area of the spine. The straight leg raise (Laseague test) and contra lateral leg raise caused pain in lower back and both extremities. Neurological examination, including deep tendon reflexes and sensation, was normal. Review of laboratory investigation revealed haemoglobin 10.9g/dL, leukocyte count $16.23 \times 10^3/\mu\text{L}$; P₇₈ L₁₆ E₀₂ M₀₄, red blood cell count $4.66 \times 10^6/\mu\text{L}$, platelets $411 \times 10^3/\mu\text{L}$, ESR 45mm/ hr. The magnetic resonance imaging (MRI) showed discitis of D12 – L1 discs with osteomyelitis involving D8-L1 vertebral bodies (Figure 3) and bilateral paravertebral abscess. On the basis of the recommendations made in various *Ayurvedic* literatures, patient put on regular therapy of *Mahalaxmi vilas ras* (*Ayurvedic* Formulary of India, Part- I, Tripathi, 2010) 250 mg per day in morning an empty stomach followed by mild purification (*samshodhan*). Patient was given *ghrita* of sheep and goat processed in the decoction of *sthiradi* group of herbs internally and externally both ways for four days. Mild fomentation of his body also allowed on fourth day. On fifth day he was recommended powder of *Piper longum* 3g in honey and *Terminalia chebula* 6g with lukewarm water in the morning empty stomach separately at the interval of nearly one hour. The powder of *Piper longum* induced 2-3 times mild emesis and the powder of *Terminalia chebula* ensured 3-4 times clear motion. Thus purification process completed within five days. Though he had no neurological symptoms, given the extension of abscess, both orthopedic and neurosurgery specialists were consulted for surgical drainage of abscess and underwent paraspinal abscess drainage through paravertebral muscles. Following the procedure patient

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briefly treated by cleaning and local dressing with *panchwalkal* decoction and *jatyadi taila* as per instructions. Four weeks later culture from drained abscess revealed *Mycobacterium tuberculosis*. He was discharged after two weeks of hospitalization and outpatient treatment continued. The effect of drug was assessed time to time through haematological, biochemical, radiological investigations and through urine analysis. After 12 months of the treatment, on follow up MRI dated May 27, 2014 revealed complete resolution of vertebral bodies and healed abscess. Now patient has no back pain and no fever. His appetite is good. He gained 16 kg of weight during treatment. No adverse effect of the drug reported by patient during therapy. His quality of life is good.

DISCUSSION

Treatment of TB in *Ayurveda* is based on a set of principles involving nutritional support measures, palliative care and detoxification therapy. Detoxification, in which oleation, fomentation, mild emesis and laxation included, has been found most effective in the management of this ailment. The main objective behind this procedure is to eliminate the factors causing disease from body preserving the immunity of the patient. Oleation in which *ghrita* of sheep and goat applied externally and given orally, is considered the most effective remedy in the treatment of *vata* disease (Singh, 2004). The use of *ghrita* processed in the decoction of *sthiradi* group of herbs induces secretion of enzymes within the alimentary canal of the patient. It corrects digestion and improves appetite. Fomentation acts as analgesics, improves circulation and reduces inflammation. The accumulated waste materials/ toxins that obstruct the channels causing disease are expelled from body either by the process of emesis or by the down flow action of purgation (Singh *et al.* 2015). In fact detoxification is the pre therapy in the actual line of management. It cleanses the channels, improves absorption and ensures smooth conduction of nutritive substances in the body. Palliative treatment given after detoxification (*Samshodhan*) therapy is believed to act more effectively and disease not relapsed once cured. Since patient having poor strength in the body in cases of TB, mild emetics recommended. The powder of *Piper longum* in 3 g. quantity acted as mild emetics. When given to the patient empty stomach with honey desired response of two or three vomits obtained within half an hour. *Terminalia chebula* responded as soft bowel evacuator, when given to the patient in 6 g. quantity with lukewarm water empty stomach in the morning ensured 3-4 times clear motion. The role of detoxification therapy has been studied in various diseases. Study showed that these procedures increased body weight, improves serum immunoglobulin, increased hemoglobin levels and normalized liver functions (Sahu and Mishra 2004).

Conclusion

The results of treatment indicate that *Mahalaxmi Vilas Ras* is very much useful drug for the treatment of TB. Drug is as effective as R H E & Z, available in conventional medicine for treatment of TB. It is safe, cost effective and eradicates the disease. Though treatment is given to only one patient but recovery of patient from disease is excellent. Results pave the way for further study of the drug in novel drug regimen.

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