# The importance of early diagnosis with magnetic resonance imaging in spinal tuberculosis

The pharmacological therapy for treating spinal tuberculosis is standardized,[1] instead the surgical treatment still presents several approaches with different techniques. Recently the "Operation Hong Kong"[2] tried to create a standardization in order to treat spinal tuberculosis likean unique disease. However, it is difficult to decide a surgical technique considering it better than another without taking into account that this disease has an own evolution and can be diagnosed in several stages with associated characteristics. In the acute stages of invasion of vertebral cancellous bone, with normal disc height and limited abscesses still liquids, may be adopted minimally invasive surgical techniques;[1] during chronic phase with vertebral collapse and loss of the disks, which causes a severe kyphosis, instability and neurological involvement, anterior or posterior approaches[3] or combined[2] for debridement and circumferential arthrodesis are necessary. Different surgical techniques have different out-come that must be considered at the time of surgical decision. Minimally invasive percutaneous approach cannot replace the traditional open approach; it is valid in the early stages of the disease before anatomical changeslikevertebral bone resorption, that causes severe focal kyphosis, or big cold abscesses are shown and it allows a faster functional recovery.[4] It is of paramount importance that the treatment is started as early as possible. The early diagnosis is therefore a very important aspect and the introduction of a system with MRI can make it possible to recognize the early disease.[5] In addition, the repeat MRI at close distances allows to identify the different stages of the disease: Paravertebral abscesses characteristic or progressive discal and vertebral involvement.[6]


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Spinal tuberculosis is a secondary localization of pulmonary tuberculosis and should be considered as a metastasis. So the patients being diagnosed pulmonarytuberculosis or persons with multiple exposures to mycobacteria whose have a strong suspicion that they may have contracted the disease, must be analyzed for any second vertebral locations before they submit the symptoms. The alterations that can be identified by MRI (T1 hypo intense, T2 hyper intense, Disc involvement, Epiphyseal involvement, pedicle involvement, Anterior subligamentous extension, Paraspinal extension, No involvement of spinous process) can give a correct orientation to begin early treatment,[6] like minimally invasive surgerywith the least morbidityand better out-come.[1,3,4]


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## References


1. Rigotti S, Boriani L, Luzi CA, Marocco S, Angheben A, Gasbarrini A, *et al.* Minimally invasive posterior stabilizaton for treating spinal tuberculosis. J Orthop Traumatol 2012 [Epub ahead of print].
2. Mak KC, Cheung KM. Surgical treatment of acute TB spondylitis: Indication and outcomes. Eur Spine J 2012 [Epub ahead of print].
3. Zhang H, Sheng B, Tang M, Guo C, Liu S, Huang S, *et al.* One-stage surgical treatment for upper thoracic spinal tuberculosis by internal fixation, debridement, and combined interbody and posterior fusion via posterior-only approach. Eur Spine J 2013;22:616-23.
4. Kandwal P, Garg B, Upendra B, Chowdhury B, Jayaswal A. Outcome of minimally invasive surgery in the management of tuberculous spondylitis. Indian J Orthop 2012;46:159-64.
5. Diehn FE. Imaging of spine infection. Radiol Clin North Am 2012;50:777-98.
6. Chandrasekhar YB, Rajesh A, Purohit AK, Jyotsna Rani Y. Novel magnetic resonance imaging scoring system for diagnosis of spinal tuberculosis. J Neurosci Rural Pract 2013;4:122-8.



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