

Lateral Retroperitoneal Transpsoas Approach: A Practical Minimal Invasive Surgery Option for Treating Pyogenic Spondylitis of the Lumbar Vertebra

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Abstract : Introduction: Pyogenic spondylitis, otherwise treated conservatively with long term antibiotics, would require surgical debridement and reconstruction in about 10% to 20% of cases. The classical approach adopted many surgeons have always been anterior approach in ensuring thorough and complete debridement. This, however, comes with high rates of morbidity due to the nature of its access. Direct lateral retroperitoneal approach, which has been growing in usage in degenerative lumbar diseases, has the potential in treating pyogenic spondylitis with its ease of approach and relatively low risk of complications. Aims/Objectives: The objective of this study was to evaluate the effectiveness and clinical outcome of using lateral approach surgery in the surgical management of pyogenic spondylitis of the lumbar spine. Methods: Retrospective chart analysis was done on all patients who presented with pyogenic spondylitis (lumbar discitis/vertebral osteomyelitis) and had undergone direct lateral retroperitoneal lumbar vertebral debridement and posterior instrumentation between 2014 and 2016. Data on blood loss, surgical operating time, surgical complications, clinical outcomes and fusion rates were recorded. Results: A total of 6 patients (3 male and 3 female) underwent this procedure at a single institution by a single surgeon during the defined period. One patient presented with infected implant (PLIF) and vertebral osteomyelitis while the other five presented with single level spondylodiscitis. All patients underwent lumbar debridement, iliac strut grafting and posterior instrumentation (revision of screws for infected PLIF case). The mean operating time was 308.3 mins for all 6 cases. Mean blood loss was reported at 341cc (range from 200cc to 600cc). Presenting symptom of back pain resolved in all 6 cases while 2 cases that presented with lower limb weakness had improvement of neurological deficits. One patient had dislodged strut graft while performing posterior instrumentation and needed graft revision intraoperatively. Infective markers normalized for all patients subsequently. All subjects also showed radiological evidence of fusion on 6 months follow up. Conclusions: Lateral approach in treating pyogenic spondylitis is a viable option as it allows debridement and reconstruction without the risk that comes with other anterior approaches. It allows efficient debridement, short surgical time, moderate blood loss and low risk of vascular injuries. Clinical outcomes and fusion rates by this approach also support its use as practical MIS option surgery for such infection cases.

Keywords : lateral approach, minimally invasive, pyogenic spondylitis, XLIF

Conference Title : ICSN 2017 : International Conference on Spine and Neurosurgery

Conference Location : Bali, Indonesia

Conference Dates : October 23-24, 2017