

5th International Conference on **Spine and Spinal Disorders**

& 15th International Conference and Exhibition on **Alzheimers Disease, Dementia & Ageing**

April 22-23, 2019 Rome, Italy

Cortical bone trajectory in posterolateral lumbar fixation: An alternative technique

Srihari Deepak and Vasileios Arzoglou
Hull Royal Infirmary, UK

Introduction: Lumbar fusion using traditional techniques of pedicle screw fixation (posterolateral fixation or posterior lumbar interbody fusion) is a well-established method of treating symptomatic spondylolisthesis. However, due to poor quality of bone in osteoporotic, elderly or obese patients, there is a risk of lower screw pullout strength with an established trajectory via the pedicle. Various studies have proposed an alternative cortical bone trajectory to overcome this dilemma.

Objectives: To assess the efficacy and safety of lumbar fusion using cortical bone trajectory (CBT) particularly in osteoporotic and obese patients.

Design: Prospective single surgeon multicenter study.

Subjects: 69 consecutive patients underwent fusion using CBT by a single surgeon over 3.5 years.

Methods: Preoperative questionnaires; telephone follow-up; paper and electronic records and imaging.

Results: Statistically significant improvements were observed in all primary outcome measures at mean follow-up of 18 months. Mean Oswestry Disability Index (ODI) decreased by 40% ($p < 0.001$), Mean Back Pain Score decreased by 46% ($p < 0.001$) and Mean Leg Pain Score decreased by 67.5% ($p < 0.001$) and Mean Walking Distance increased by 350% ($p < 0.001$), mean number of analgesia tablets per day decreased by 61% for opioids ($p < 0.001$) and 50% for non-opioids ($p < 0.001$). For single level surgery and 2-level surgeries, mean operative duration was 173 minutes and 232 minutes respectively and mean estimated incision length was 8 cm and 11.4 cm respectively. There were 9 reported complications of which 7 required revision surgery. BMI more than 30 showed a non-significant trend towards longer mean incisions for 1 level surgery (9.4cm vs 7.4cm, $p = 0.62$) and mean post op stay (2.9 days vs 2.2days, $p = 0.44$). There was no association with the rate of complication, revision surgery or blood loss.

Conclusions: Lumbar fusion using CBT is a safe and considerable alternative to traditional lumbar fixation techniques.



Biography

Srihari Deepak is a Research Fellow in Neurosurgery currently pursuing an MD (res) at University of Hull. His project centers on evaluating the role of microfluidics on patients with high-grade gliomas.