

BASS 2017 abstracts

Adult Spinal Deformity

1. Use of transition rods as supplementary posterior fixation in combined antero-posterior corrections of the adult degenerative deformity

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BACKGROUND CONTEXT: Proximal junctional kyphosis (PJK) is a pathological kyphotic deformity adjacent to the instrumentation. Clinical studies have highlighted risk factors that predispose patients to develop PJK. Transition rods decrease the biomechanical indices that may be involved in PJK, however, there is no current clinical evidence confirming this. We present our own experience in using transition rods as a supplementary posterior fixation after complex multilevel anterior column reconstruction in patients with adult degenerative deformity.

PURPOSE: To prove that the use of transition rods, together with other well-documented technical principles, appears to be a safe and effective component of the surgical armamentarium that may help in preventing PJK.

STUDY DESIGN/SETTING: Prospective clinical study.

PATIENT SAMPLE: In the analysed period, eleven patients (8 female and 3 male) with mean age 67 ± 7.5 were treated surgically with a first stage of multiple anterior ALIFs followed at a later stage by the use of supplementary posterior fixation with transition rods.

OUTCOME MEASURES: The mean pelvic incidence (PI), preoperative lumbar lordosis (LL), global thoracic kyphosis (TK) and SVA. The amount of correction to LL and to SVA. The median follow up, the global TK and segmental TK above the top instrumented spinal segment. Recording of pre-operative and postoperative pain scores and of any complications.

METHODS: Between 2014–2016, prospective data was collected for all adult degenerative deformity cases with loss of sagittal balance where transition rods were used. In all cases transition rods were used as a supplementary posterior fixation after multilevel anterior lumbar interbody fusion through the visceral rotation described elsewhere. Information regarding surgical complications was noted. Upright whole-spine lateral radiographs were analysed with the use of SurgiMap software—spino-pelvic parameters, SVA as well as segmental and global thoracic kyphosis were documented.

RESULTS: The mean pelvic incidence (PI) was $67^\circ \pm 7.54^\circ$ (range: 34° – 58°), preoperative lumbar lordosis (LL): $23.5^\circ \pm 14.8^\circ$, global thoracic kyphosis (TK): $31.81^\circ \pm 16.35^\circ$ and SVA: 116.36 ± 70.11 mm (range: -11.83 – 230.29 mm). The amount of correction to LL was $27.81^\circ \pm 16^\circ$ and to SVA: 97.99 mm ± 63.22 mm. In majority of patients transition rods were used for instrumentation of two lower thoracic levels (range: 1–4 levels). Over the median follow up of 12.5 months (95% CI 2.2–17.4) the global TK increased by $6.72^\circ \pm 7.14^\circ$ and segmental TK above the top instrumented spinal segment increased by $1.27^\circ \pm 3.71^\circ$.

CONCLUSIONS: The use of transition rods, together with other well-documented technical principles, appears to be a safe and effective component of the surgical armamentarium that may help in preventing PJK. Long term studies based on the wide cohort of patients is warranted.

CONFLICTS OF INTEREST: None.

FUNDING SOURCES: None.

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2. Complications in spinal surgery—a comparison of patient and surgeon reporting systems

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BACKGROUND CONTEXT: With rise in Worldwide healthcare expenses, healthcare providers have to better justify the cost. This in turn puts further emphasis on accountability and has led to an increase in use and measurement of outcome measures and complication rates as a way of comparing services offered by different units and surgeons.

PURPOSE: To compare and correlate complications rate between patient and surgeon reporting systems in spinal surgery in our unit.

STUDY DESIGN/SETTING: A retrospective analysis of prospectively completed Spine TANGO Core Outcome Measure Index (COMI) scores.

PATIENT SAMPLE: COMI scores completed prospectively over a period of 6 months were analysed.

OUTCOME MEASURES: COMI Scores which included self reported scores and functional measures were compared.

METHODS: A complication is defined as a deviation from a normal expected post operative course. Data was prospectively collected for 6 months using the Spine TANGO Core Outcome Measure Index, examining the independently reported complications at discharge, both by patients and surgeons. Complications were cross referenced with the patient records and further graded to help with analysis.

RESULTS: The surgeon reported complication rate was 4.6% as compared to the patient reported rate of 25%. The correlation coefficient was 0.17. The true complication rate was 15.2%.

CONCLUSIONS: Patients tend to over report complications particularly the Grade I complications. It was felt that this could be improved by better pre-operative counselling. Surgeons were found to under report complications but were found to be better at reporting Grade II and III complications. A combination of both methods is likely to yield better results.

CONFLICTS OF INTEREST: None.

FUNDING SOURCES: None.

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3. Impact of surgical site infection on surgical outcomes in adult spinal deformity: a matched control study

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BACKGROUND CONTEXT: Surgical Site Infection (SSI) is one of the feared spinal surgery complications.

It is associated with increased short-term morbidity and overall costs.

It's ultimate impact on deformity correction is still unclear.

PURPOSE: To study the morbidity of SSI in Adult Spinal Deformity (ASD) population and its impact on deformity correction.

STUDY DESIGN/SETTING: Matched Cohort study using prospectively collected data from an international multicentric ASD database.