

## O-027 - CLINICAL AND RADIOLOGICAL OUTCOMES FOR MINI-OPEN COMBINED ONE STEP ANTERIOR AND OBLIQUE APPROACH FOR TWO LEVEL LUMBAR INTERBODY FUSION. A SINGLE CENTER PROSPECTIVE STUDY

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### Resumen

**Introduction:** Lumbar interbody fusions techniques include anterior (ALIF), posterior (PLIF), transforaminal (TLIF), extreme lateral (XLIF) and oblique lateral interbody fusion (OLIF), each with its own advantages and disadvantages. L4-L5 and L5-S1 arthrodesis is the most common lumbar double fusion association. The objective of this work is to assess the clinical and radiographic outcomes and complications and determine the comparative effectiveness and safety of the technique.

**Methods:** Nineteen patients with indication of L4-L5 and L5-S1 arthrodesis underwent mini-open combined one step L5-S1 anterior and L4-L5 oblique interbody fusion and percutaneous posterior pedicle screws. Demographics, fusion rate, Modified Macnab Criteria Outcome and surgical complications were assessed. Visual Analog Scale score, Oswestry Disability Index and spinopelvic parameters, were evaluated before and after surgery.

**Results:** The mean age of the patients was 47 years. Visual Analog Scale mean improved from 6.32 to 1.02 nine months after surgery and Mean Oswestry Disability Index from 43.5% to 10.11%. The mean value of the spinopelvic parameters  $\pm$  SD preoperative and postoperative was pelvic tilt (PT)  $12.4 \pm 9.36 - 14.6 \pm 7.14$ , sacral slope (SS)  $36.2 \pm 13.90 - 141.3 \pm 7.30$ , pelvic incidence (PI)  $51.8 \pm 16.84 - 58.7 \pm 13.40$  and lumbar lordosis (LL)  $55.3 \pm 11.37 - 59.3 \pm 9.83$ . Fusion rate was found to be 95% at 9 months. There was no spinal nerve or urinary injury, one major vessel (venous) and two peritoneal lesions without clinical consequences and one case of transient retrograde ejaculation.

**Conclusions:** ALIF seems to be the preferred method in L5/S1 for discogenic LBP and lordosis restoration, in L4/L5 alif/olif the second option because increased risk of vascular injury. Combined one step ALIF for L5-S1 and oblique approach through the surgical window between the psoas and the left common iliac vein for L4-L5 interbody fusion seems to be a good option that combines the good results of the anterior technique minimizing the surgical risks.