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Endoscopic Transiliac Approach to L5-S1 Disc and Foramen A Cadaver Study

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THE OSMAN approach
Est. 1993

BACKGROUND

- Attributes of approaches to L5-S1 disc and foramen
  - Anterior approach (trans- or retroperitoneal – Difficult, needs 2 surgeons
  - Posterior approach –violates spinal canal, removes bone
  - TLIF approach – necessitates excision of facet joint
  - X-LIF – Inaccessible L5-S1
  - AxiaLIF – Violates retroperitoneal space, risks visceral/vascular injury
  - Arthroscopic Posterolateral - may be inaccessible over iliac crest

PURPOSE

- To determine feasibility of a trans-iliac approach to L5-S1 disc and foramen
- To determine feasibility of trans-iliac endoscopic L5-S1 discectomy
- To determine feasibility of trans-iliac transforaminal fusion of L5-S1 disc

STUDY DESIGN

- Prospective case study
- Pre- and post-operative ODI and VAS questionaires
- Pre- and post-operative use of pain medicine

MATERIALS

- 15 patients (10 male and 5 female) were studied
- Pre-operative MRI were used to plan portal site and angle of instrumentation

METHODS

- Prone postion on Kambin frame
- Conscious sedation and local anesthetic
- Intra-operative neuromonitor
- Fluoroscopic guidance for instrumentation
- JamShidi Needle and guide wire
- Manual drills or trephine for trans-iliac window

METHODS

- Guide-wire was inserted through the iliac wing aiming at L5-S1 disc at mid-interpedicular position

RESULTS

- 15 patients (10 male and 5 female) underwent Trans-iliac approach
- Mean age – (Range)
- Procedures
  - LED
  - LINDIF
- ODI
  - LED
  - LINDIF
- VAS
  - LED
  - LINDIF

RESULTS

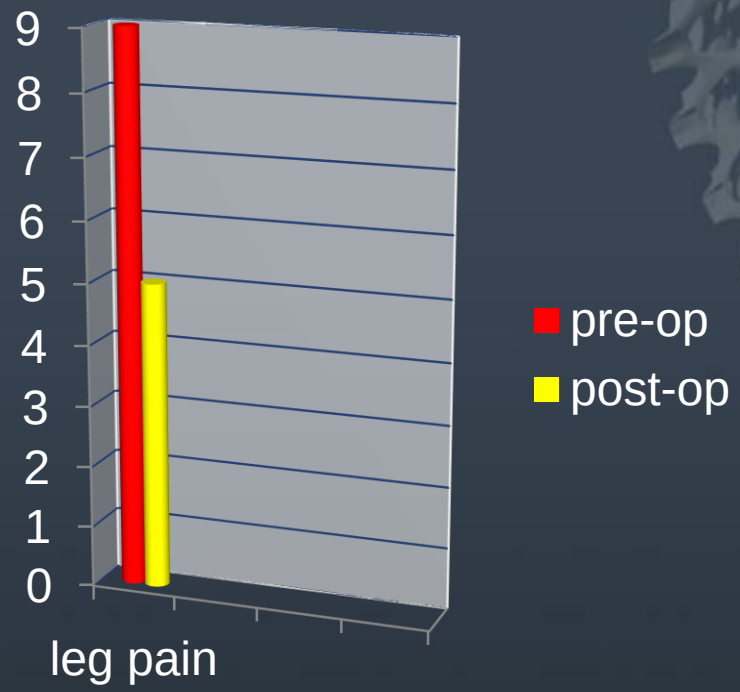
Number of case = 15:

- Male = 10
- Female = 15
- Mean age = 45 years

RESULTS

Pre-op leg pain = 9/10

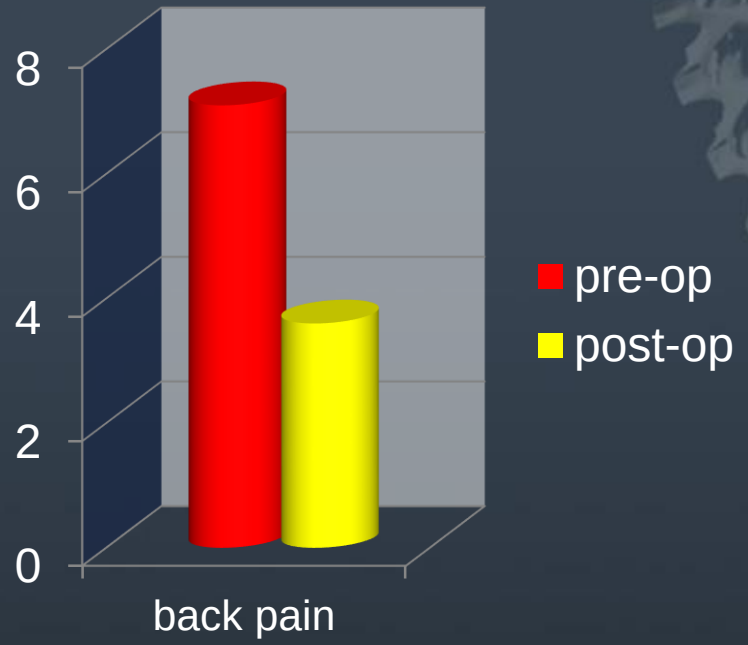
Post-op leg pain = 5/10



RESULTS

Pre-op back pain = 9/10

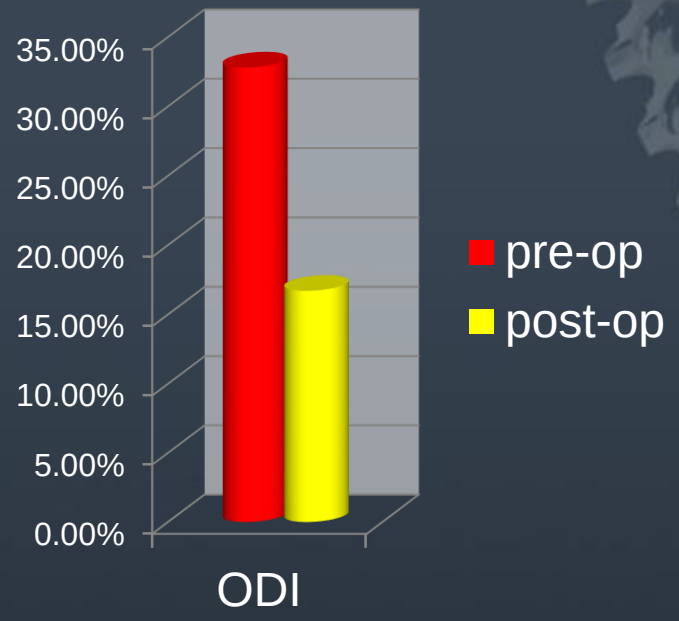
Post-op back pain = 5/10



RESULTS

Pre-op ODI = 32.8%

Post-op ODI = 16.7%

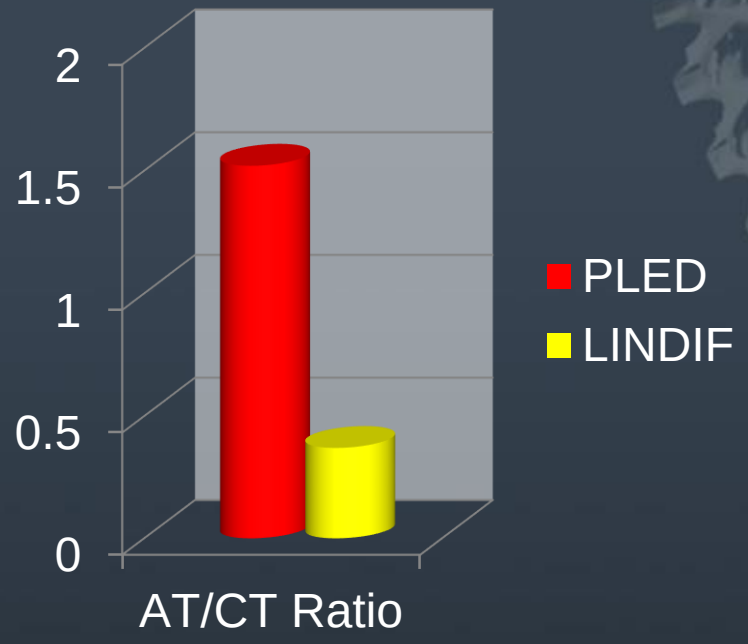


RESULTS

AT/CT Ration:

PLED = 1.52

LINDIF = 0.37



CONCLUSION

- Trans-iliac approach is clinically feasible
- Avoid transcanal approach
- Avoids intra-abdominal and pelvic structures
- Avoid risks of X-LIF
- No need to change patient position or technique
- No complications noted secondary to the approach
- Blood loss minimal