Anterior cervical discectomy and fusion with zero-profile cervical screw-secured titanium cage.

Safety evaluation and 6 months radiological Follow Up

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Disclosure

- Honorarium
  - Spineart
**Introduction**

- Although fusion rates are higher with ACDF procedures if supplemented with a plate, plates may be associated with higher rates of morbidity and dysphagia.

- We studied a stand-alone cage with integrated fixation for zero-profile segmental stabilization.
**Material & Methods**

- **Demography**
  - 13 males patients (40.6%)
  - 19 female patients (59.4%)
  - Aged between 36 and 76 years
  - Mean age 56.5 years
  - Between 1/10/14 and 1/6/2016

  - 39 levels were treated
    - 32 one-level surgery
    - 7 two-levels surgery.

  - Levels:
    - C5C6 (22 levels)
    - C6C7 (13 levels)
    - C4C5 (2 levels)
    - C3C4 (2 levels).

- **Primary endpoints**:
  - Short term safety evaluation
  - Immediate post-operative complications
  - Subsidence
  - Screw loosening
  - Anterior or posterior migration.

- **Secondary endpoint**:
  - Evaluation of postoperative fusion by ROM assessment on flexion extension lateral cervical Xrays after 6 years FU.
Implant description

SCARLET AC-T cervical secured cage (Spineart Inc, Switzerland)

- Zero profile
- Anatomical
- Secured by two screws
- Titanium
Clinical signs

- All 32 patients presented with neck and arm pain.
- 17 patients (53%) presented with clinical and/or radiological signs of myelopathy.
- 9 patients presented with predominant compression by soft disc herniation
- 22 patients presented with more disco-osteophytic compression
- 1 patient presented with pseudarthrosis on a stand-alone PEEK cage.
Results

- We observed two cases of minimal subsidence, two mild transient dysphagias, one superficial infection, no screw loosening, and no migration.
- No patient was reoperated
- Bridging bone around the cage was observed in 27 levels (93%).
- 77.3% of the patients showed signs of solid fusion
- 18.2% showed signs of incomplete or ongoing fusion
- 4.5% had radiological signs of failed fusion
Radiological results

6 months post operative
Flexion / Extension X-Rays
Conclusion

- ACDF with the Scarlet AC-T cervical secured zero-profile cage is safe.
- No implant failure or implant related complication could be observed.
- Solid or ongoing fusion was observed in 95.5% of the operated levels after 6 months.