

# ANTERIOR VERTEBRAL COLUMN FOR ADULT SPINAL DISORDERS: EFFICACY, COMPLICATIONS AND RISK FACTORS

**Meric ENERCAN,MD**

**Gurkan GUMUSSUYU, MD**

**Sinan KAHRAMAN,MD**

**Cagatay OZTURK,MD**

**Tunay SANLI, MA**

**Bekir Yavuz UCAR, MD**

**Ramazan SOYDAN, MD**

**Burak ABAY, MD**

**Azmi HAMZAOGLU,MD**

**Ahmet ALANAY,MD**

*Istanbul Spine Center  
Florence Nightingale Hospital  
Istanbul-TURKEY*

# POSTERIOR VERTEBRAL COLUMN RESECTION FOR Å

## Author

Meric ENERCAN,MD

Gurkan GUMUSSUYU, MD

Sinan KAHRAMAN,MD

Cagatay OZTURK,MD

Tunay SANLI, MA

Bekir Yavuz UCAR, MD

Ramazan SOYDAN, MD

Burak ABAY, MD

Azmi HAMZAOGLU,MD

Ahmet ALANAY,MD

## Relationships Disclosed

No Relationship

No Relationship

No Relationship

Medtronic (b)

DepuySynthes (a)

No Relationship

No Relationship

No Relationship

Medtronic(b)

DepuySynthes (a, b)

EUROSPINE 2013

OCTOBER 2-4 2013, Liverpool, UK

(a) Grants/Research Support

(b) Consultant

(c) Stock/Shareholder

(d) SpeakersBureau

(e) Other Financial Support

# INTRODUCTION

**Aim of this study is retrospectively to analyze the results, complications and related risk factors of PVCR performed on a consecutive series of adult patients with spinal disorders.**

# TERIAL & METHODS

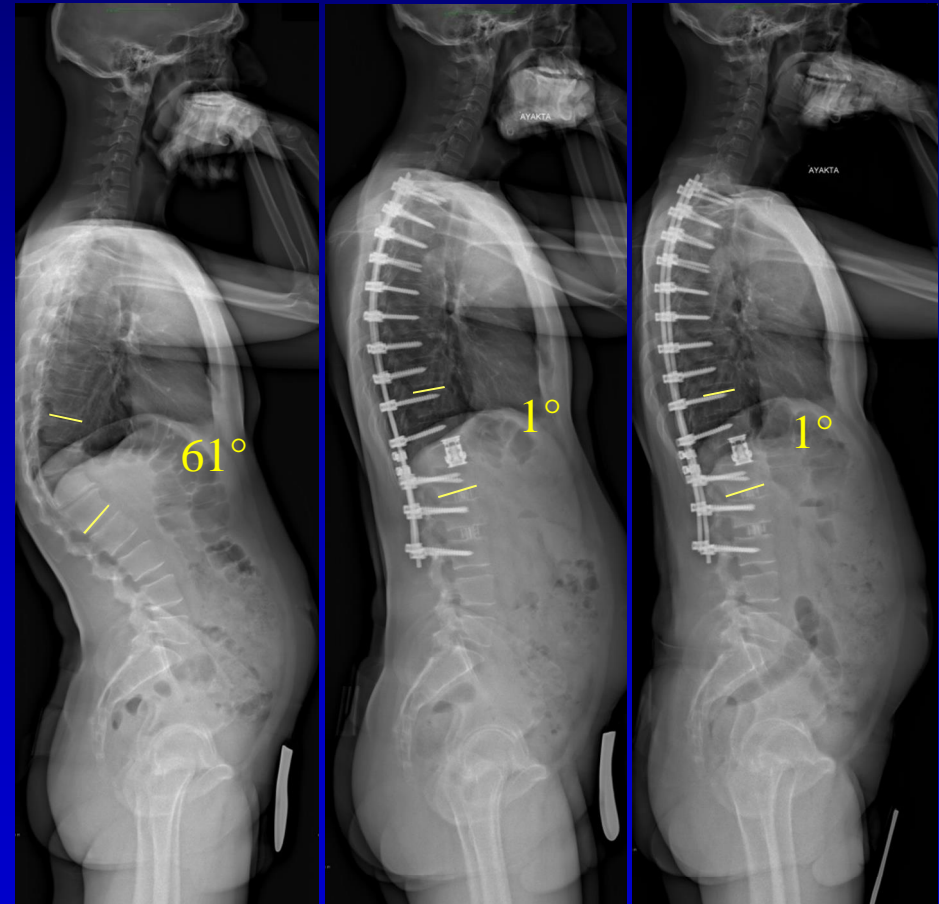
- ✓ 56 adult patients (27 f, 29 m).
- ✓ Indications were:
  - scoliosis (9)
  - acute fracture (15)
  - posttraumatic kyphosis (8)
  - kyphosis (9)
  - PJK (7)
  - spondylodiscitis (6)
  - ankylosing spondylitis (2)

# MATERIAL & METHODS

- ✓ Preop, postop and f/up X-Rays were evaluated to measure deformity, to reveal mechanical complications.
- ✓ Hospital charts were evaluated for medical complications.
- ✓ Risk factors and their correlation with complications were analyzed.

# RESULTS

- ✓ Av. age was 45 (19 - 85).
- ✓ Mean f/up was 4,6 (2-10) year.
- ✓ PVCR was performed:
  - T level (23)
  - TL level (29)
  - L level (4)



Preop

Early Postop

2 Year F/up

# RESULTS

✓ Av. operation time was 441 (240-900) min.

✓ Av. blood loss was 2452 (1000-6100) ml.

✓ Av. instrumentation level was 9 (4-18).

✓ Mean coronal plane curve corrected:

87,6° (46-120) → 47,3° (5-77) (46%).

✓ Mean thoracic kyphosis corrected:

65,1° (24-110) → 47,6 degree (29-84) (27%).

# RESULTS

- ✓ Overall complication rate was 55,4%.
- ✓ 29 patients had 35 minor complications (51,8%).
- ✓ 4 patients had 4 major complications (7,1%).
- ✓ Major complications were
  - ✓ pneumonia (2)
  - ✓ pulmonary embolism (1)
  - ✓ superior mesenteric artery syndrome (1).
- ✓ There was no neurological complication.



# RESULTS

- ✓ Etiology (acute trauma) was associated with major complications ( $p=0,045$ ).
- ✓ Total and minor complications were found higher in males ( $p=0,014$ ,  $p=0,025$ , respectively).
- ✓ Patient age, PVCR level, etiology and revision surgery were not associated with major complications ( $p>0,05$ ).
- ✓ There was no significant loss of correction at final f/up ( $p>0,05$ ).
- ✓ Fusion was observed in all patients.

# CONCLUSION

**PVCR provides satisfactory radiographic outcome for the treatment of complex spinal disorders.**

**However, it is a technically demanding procedure with high complication rates (major: 7,1%, minor: 51,8%) and should be selected only when other alternatives are not appropriate.**