THE USE OF PEDICLE SCREWS FOR VEPTR FIXATION TO THE SPINE

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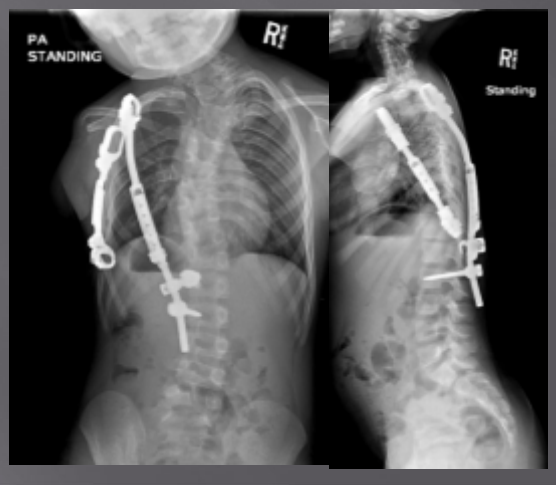
Introduction

- The original design of the VEPTR used supralaminar hooks as anchors to the spine.
- One difficulty with rib to spine VEPTR has been complications related to the distal anchor hook to the spine (loss of fixation, migration)
- A technique of using reinforced pedicle screws in place of the hook as fixation of the spine has been developed in an attempt to eliminate this occurrence.

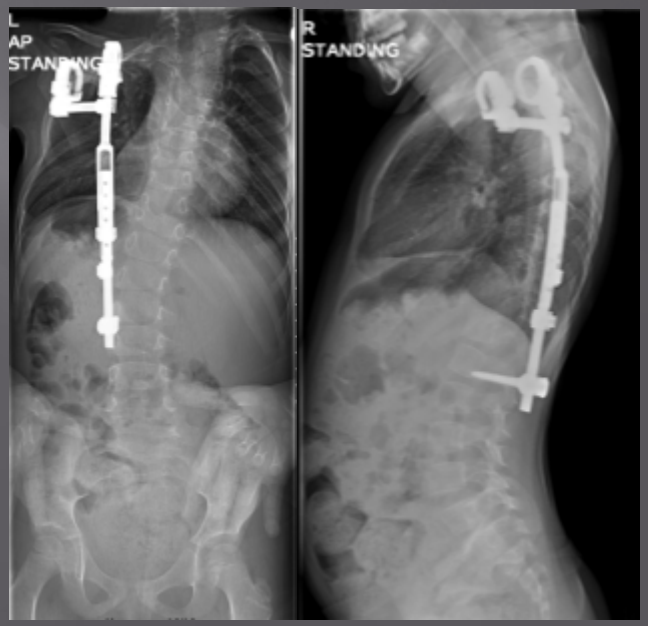
Methods

- Charts and radiographs were reviewed on all patients who had placement of rib to spine VEPTR devices utilizing screw fixation to the spine.
- The technique for the pedicle screw fixation was done with pedicle screws reinforced with fiberwire around the spinous process or lamina or with a supplemental hook above.



Results

- Eight patients
- Diagnoses:
  - Congenital-4
  - Neuromuscular-1
  - Syndromic-2
  - Cyanotic heart disease-1
- Average age at placement: 6+5 years
  - (range 1+6 to 17+10 years)
- Average length of follow-up: 2+7 years
  - (range 6 weeks to 5+8 years)
- Average number of lengthenings per patient: 4
  - (range 0-12)



Complications

- Asymptomatic migration of the screw distally which was replaced at the next scheduled lengthening- 1 patient
- Infection-2 patients
- Upper anchor pullout- 1 patient

Conclusion

- Pedicle screw reinforcement offers safe and secure distal fixation at two year follow-up for rib to spine VEPTR placement.