Paediatric Cervical Sagittal Deformity

Case series review

Nunes AM; Campagnolo J; Jordão P; Mineiro J
Lisbon - Portugal
• Paediatric cervical abnormalities are rarely found

• Different cases with multiple etiologies
  • Congenital (3)
  • Iatrogenic (1)
  • Infectious (2)
Post-laminectomy kyphosis

Case 1

Male, 16 year old, presented with progressive hemiparesis.

Type I Arnold-Chiari malformation → occipital and C1 laminectomy
Post-laminectomy kyphosis

Case 1

Male, 16 year old, presented with progressive hemiparesia.

Type I Arnold-Chiari malformation  occipital and C1 laminectomy

Sudden neurological worsening after positioning in flexion
Post-laminectomy kyphosis

Case 1

Halovest Stabilization and endoscopic odontoidectomy  progressive flexion until horizontal gaze
Case 1

Occipito-cervical fusion (C0-C4), no neurological deficits to report

OC2 8°
C2C7 42°
C7 slope 26°
Cervical hemivertebra

Case 2

Male, 3 year-old, cervical congenital kyphoscoliosis with hemivertebra (C4). No neurological deficits.

OC₂ 34°
C₁C₂ 30°
C₂C₇ -12°
C₁C₇ 22°
C₇ slope 28°
Cervical hemivertebra

Case 2
Posterior C3-C5 posterior fusion with iliac crest graft and temporary halo-vest

5 months post op
Cervical hemivertebra

Case 2
Posterior C3-C5 posterior fusion with iliac crest graft and temporary halo-vest

12 months post op
Cervical hemivertebra

Case 2

Posterior C3-C5 posterior fusion with iliac crest graft and temporary halo-vest

18 months post op

OC₂ 54°
C₁C₂ 30°
C₂C₇ -38°
C₁C₇ -8°
C₇slope 6°
Cervical hemivertebra

Case 2
Posterior C3-C5 posterior fusion with iliac crest graft and temporary halo-vest

18 months post op

OC₂ 54°
C₁C₂ 30°
C₂C₇ -38°
C₁C₇ -8°
C₇ slope 6°
Cervical hemivertebra

Case 2

Anterior C4 hemi-corpectomy and C3-C5 fusion with iliac crest graft and temporary halo-vest
Cervical hemivertebra

Case 2
Anterior C4 hemi-corpectomy and C3-C5 fusion with iliac crest graft and temporary halo-vest

5 months post op
Cervical hemivertebra

Case 2

Anterior C4 hemi-corpectomy and C3-C5 fusion with iliac crest graft and temporary halo-vest

8 months post op
Cervical hemivertebra

Case 2

Halo-gravity traction and occipito-cervical fusion was performed

6 months post op

OC2 52°
C1C2 34°
C2C7 -14°
C1C7 18°
C7 slope 18°
Cervical hemivertebra

Case 2

7 years post op

C1C2 40°
C2C7 -22°
C1C7 18°
C7slope 16°