Klippel-Feil syndrome in congenital scoliosis

Xuhong Xue, M.D., Jianxiong Shen*, M.D., Jianguo Zhang, M.D., Ye Tian, M.D. Hong Zhao, M.D., Yipeng Wang, M.D., Jinqian Liang, M.D., Zheng Li, M.D., Guixing Qiu, M.D.

Spine Center, Peking Union Medical College Hospital
Background

- KFS is characterized as improper segmentation of one or more cervical spine segments
- “Scoliosis” is potentially the most common manifestation associated with KFS
- The incidence of spinal or extraspinal abnormalities in KFS with congenital scoliosis (CS) remain unknown
Objective

➢ To investigate the clinical manifestations and radiological characteristics of Klippel-Feil syndrome (KFS) in congenital scoliosis (CS)

➢ To identify the incidence of spinal or extraspinal abnormalities in KFS
Methods

- A total of 516 patients with CS from Jan 2009 to Mar 2013 were identified from a single institution. The demographic distribution, clinical and radiographic data were collected.
- Cervical regions were also designated as high (O-C2), mid (C2-C4), and low (C4-T1).
- The incidence of intra- and extra-spinal abnormalities associated with KFS was investigated.
Results and conclusions

- Among 516 Chinese surgical patients with CS, 28 (5.42%) had Klippel-Feil syndrome.
- Congenitally fused cervical patterns are more common in the mid and lower cervical spine region.
- The incidence of rib anomalies, intraspinal abnormalities and hemivertebra was not increase in CS patients with KFS.
- All patients with KFS should be evaluated with flexion-extension radiographs to look for potential threat to the patient, so that to protect them against injury.
Distribution of congenital fused cervical patterns in KFS with congenital scoliosis (n=28)

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Note: Cervical regions: High (O-C2), Mid (C2-C4), and Low (C4-T1)
Disclosure declaration

- The authors declare that they have no conflict of interests related to this work
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