Nodes of Rouviere in Healthy Children: Detectability and Size on Magnetic Resonance Imaging and Relationship with Changes in the Paranasal Sinuses

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ABSTRACT
Objectives: The visibility and size of the nodes of Rouviere have not been studied in healthy children. The objectives of the present study were to study the size of these nodes in children on magnetic resonance imaging and its relation with changes in paranasal sinuses.

Patients and Methods: Ninety five healthy children (58 boys and 37 girls) aged 6.7 to 12.6 years had axial T2-weighted MRI of the brain and upper neck. The long and short axis diameters of Rouviere’s nodes were measured. The paranasal sinuses were graded clear, or, when mucosal thickening or fluid was detected in any of the paranasal sinuses, unclear.

Results: In 3 children, the left Rouviere’s nodes could not be identified. The remaining 187 Rouviere’s nodes ranged from 1.0 to 11.3 mm in long axis, 1.0 to 8.0 mm in short axis and 1.0 to 9.2 mm in average nodal diameter. The respective mean and standard deviations were: 6.0 ± 2.2 mm, 4.2 ± 1.4 mm; and 5.1 ± 1.7 mm. There was no statistical difference between the 2 sides (p = 0.4, 2-tailed paired t-test) or between the nodal diameters and age (p = 0.08, 2-tailed Pearson's correlation test). Compared with the children with unclear sinuses (n = 22), children with clear sinuses (n = 73) had significantly smaller long axis (p = 0.004), short axis (p = 0.002), and average nodal diameter (p = 0.002) [2-tailed unpaired t-test].

Conclusions: Over 95% of Rouviere’s nodes could be identified on T2-weighted magnetic resonance imaging in healthy children between 6.7 and 12.6 years. The nodal diameters were larger than observed in adults but age-related difference was not observed within the age range studied. Significantly larger nodal size was shown in children with unclear paranasal sinuses.

Key Words: Child, Lymph nodes, Magnetic resonance imaging, Paranasal sinuses