Comparative Analysis of Tomosynthesis and Standard Digital Radiography in Spinal Research in Children and Adolescents

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Abstract

The article discusses the application of the tomosynthesis techniques in the study of the spine pathology. The authors examined 89 patients from 4 to 18 years with different pathologies of the cervical thoracic and lumbosacral spine that was allocated in 3 groups. All patients had done standard digital radiography in 2 projections and tomosynthesis in one projection. The study produced on X-ray machine FDR AcSelerate 200 (Fujifilm, Japan). The authors concluded that the tomosynthesis is superior to standard digital radiography by sensitivity, accuracy, specificity and predictability of a positive and a negative result. Tomosynthesis produces a plurality of bundle images without summation effect, overcoming that limitation better visualized the ratio in the segment C1–C2 small sharpening the vertebrae in the thoracic spine, spondylolysis arcs vertebrae in the lumbosacral region. Thus, tomosynthesis may be recommended as a method of choice for studying the pathology of the spine.

Key words: Tomosynthesis, Diseases of the Musculoskeletal System, Children and Adolescents, Spine.

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