

## Application of Tomosynthesis in the Differential Diagnosis of Chest Diseases

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### Abstract

Tomosynthesis is a digital radiological technique that improve the detection of lungs' lesions and thus reducing radiation exposure. The aim of this study was to determine the possibilities of tomosynthesis in the diagnosis of chest diseases. 120 patients were examined with pathology of the chest through digital radiography (DR), tomosynthesis (TC) and multislice computed tomography (MSCT). According DR five groups were allocated to lung consolidation (n = 35; 29,2 %), nodules (n = 25; 20,8 %), destructive (n = 18; 15 %) and disseminated process (n = 22; 18,3 %) and the urgent conditions (n = 20; 16,7 %). Tomosynthesis allowed receive additional information in 61,7 % of cases, which was clinically significant in 31,7 % of cases. Signs of dissemination, destruction of lung tissue, symptoms of «amputation bronchus» and «air bronhogram», nidal shadows and rib fractures were detected on digital tomograms additionally. However TS is inferior to MSCT in the diagnosis of chest diseases due to the lower resolution, which doesn't allow to assess the condition of the lung tissue in subpleural area and over the phrenic, especially in the presence of artifacts from breathing.

**Key words:** Tomosynthesis, Digital Radiography, Multislice Computed Tomography, Chest Diseases.

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