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Ultrasonography in the diagnosis of tumours of the hand

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Introduction: One of the basic methods for diagnosing pathological processes that occur in the hand is ultrasonography.

Materials and Methods: The study carried out using the ultrasound system LOGIQ-3 PRO supplied with an ultrasound scanner of high quality class and multipower sensor 8L (period between 2001 and 2012). Longitudinal and transverse scanning was performed before surgery, after wound healing and at long-term follow-ups. Tumours were detected, their size, structure and contours were estimated, and topical diagnosis was performed. The study was conducted in 143 patients with tumours of the hand.

Results: In cases of tumour-like diseases of hand tendons, a discontinuity of their contours can be detected with appearing hyperechogenic defect zone. In a number of cases, lesions to nerve trunks and their shift due to a tumour can be clearly identified. If the joint is involved, the changes in width and uniformity of the joint space, lytic alterations of the articular surfaces are revealed. In cases of malignant tumours of hand bones (chondrosarcoma), thickening of the cortical layer round the tumour, usuration and collapse (fibrosarcoma and osteosarcoma) of the latter can be noted. In peripheral types, there is destruction focus, bone lysis and the exit into soft tissues. Diagnostic ultrasound enables observation of the repair process in the postoperative rehabilitation period, in particular after suturing tendons and nerves, and osteoplasty (organ salvage surgeries).

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