High Resolution Ultrasonography in Differential Diagnosis of Malignant cutaneous and subcutaneous Lesions

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Abstract

The aim of study was the assessment the feasibility of using high-resolution linear ultrasonic (US) transducers and diagnostic value of sonoelastography (SEG) in the study of neoplasms of skin and subcutaneous tissue. A total of 70 patients with benign or malignant cutaneous and subcutaneous abnormalities were divided into 2 groups. Group I included 50 patients with benign lesions (lipomas (n = 13; 26 %), senile keratomas (n = 12; 24 %), melanocytic nevi (n = 11; 22 %), dermatofibroma (n = 7; 14 %), epidermal inclusion cysts (n = 4, 8 %), keloids (n = 3; 6 %). Group II included 20 patients with malignant pathology: basal cell carcinomas (BCC) (n = 11; 55 %), melanomas (n = 3; 15 %), metastases to the skin and subcutaneous tissue (n = 3, 15 %), liposarcomas (n = 3; 15 %). A comparative analysis of ultrasound signs of benign and malignant cutaneous and subcutaneous tumors, hemodynamic and sonoelastography parameters performed. In the group II are statistically more likely determined: irregular shape (n = 13; 65 %), indistinct margins (n = 15; 75 %), fuzzy borders (n = 11; 55 %), the heterogeneous structure (n = 17; 85 %), hyperechoic inclusions (n = 7; 35 %), color elasticity score of 4 and 5 (n = 18; 90 %), higher strain ratio (SR). In order to optimize differential diagnosis was offered different the best strain ratio cut-off points for dermal (SR = 2.76) and subcutaneous (SR = 3.85) lesions.

Key words: High-resolution Ultrasound, Ultrasonography, Malignant Lesions of Skin and Subcutaneous Tissue, Sonoelastography.

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