

doi.org/10.52418/moldovan-med-j.64-6.21.07
UDC: 617.553-006-073.43



Sonographic approach to the tumours of retroperitoneal space

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Manuscript received November 01, 2021; revised manuscript December 10, 2021; published online December 17, 2021

Abstract

Background: Timely diagnosis of primary retroperitoneal tumours is one of the current challenges of clinical oncology. This is due to the rarity, polymorphism and diagnostic difficulties of primitive retroperitoneal tumours.

Material and methods: The study is cross-sectional, prospective and retrospective. The study group is represented by 118 patients with abdominal and retroperitoneal space tumours. Using the receiver operating characteristic (ROC) analysis curve and calculating the average quality of the diagnostic model, the informativeness of ultrasonography in the diagnosis of primary retroperitoneal tumours (PRT) was appreciated.

Results: For tumour localization, the ultrasonography (USG) as a diagnostic model demonstrated an appropriate use criteria (AUC) of 0.641 (95% CI 0.541, 0.740, $p < 0.001$), and the mean quality of the diagnostic model was 0.54. Following the statistical analysis, was found a partial correlation between the size of the tumour and the dimensions estimated at USG of 0.540 (95% CI 0.295, 0.737, $p < 0.001$), which represents a high positive correlation. To determine the uni- or multicentric character of the tumour, the USG demonstrated an integrative value of sensitivity and specificity of 0.644 (95% CI 0.415, 0.873, $p < 0.001$). In assessing the proximity ratio of retroperitoneal tumours, the highest AUC was recorded in the assessment of the ratio of tumour to pancreas – 0.838 (95% CI 0.705, 0.971, $p < 0.001$) and kidney – 0.861 (95% CI 0.699, 1.024, $p < 0.001$).

Conclusions: Ultrasonography is a fairly informative imaging diagnostic method in the diagnosis of retroperitoneal tumours. The characteristics of the tumours obtained after the ultrasound examination provide indirect information about the malignant or benign nature of the primitive tumour, which allows the assessment of the next stages of diagnosis and treatment.

Key words: ultrasonography, retroperitoneal tumours.

Cite this article

Schiopu V, Turcanu V, Ghidirim N. Sonographic approach to the tumours of the retroperitoneal space. Mold Med J. 2021;64(6):37-40. <https://doi.org/10.52418/moldovan-med-j.64-6.21.07>.