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## Doppler sonography from children with osteosarcoma and Ewing sarcoma

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### PURPOSE

To study of capabilities of ultrasonic method in the diagnosis of osteosarcoma and Ewing sarcoma in children.

### METHOD AND MATERIALS

Were analyzed the results of Doppler investigation of 28 children aged 9-17 years with malignant tumors: Ewing sarcoma (13 children) and osteosarcoma (15 children) located in the lower extremities. All cases were prospectively verified morphologically. X-ray, computed tomography and ultrasonography was performed in 100% of cases. To assess of the regional hemodynamics, the degree of vascularization of tumor and the state of major vessels we used color Doppler ultrasonography, power Doppler and spectral wave analysis.

### RESULTS

A comparison study of indicators of children with osteosarcoma and Ewing sarcoma did not reveal significant differences ( $p=0,07-0,40$ ), that at this stage allowed them to unite in one group. Blood flow in the common femoral arteries (CFA) affected and healthy limbs in these groups have been varied in quantitative characteristics. The curves Doppler of blood flow for CFA of the affected limbs in most cases have been with high amplitude and above zero line during the pulse cycle (Pict.). The volume blood flow of the CFA to the affected limb was  $885 \pm 324$  ml / min, and for a healthy limb -  $424 \pm 138$  ml / min (p

### CONCLUSION

Were obtained the doppler symptoms for osteosarcoma and Ewing sarcoma in children. The data obtained by using Doppler technique at the initial stage of diagnosis together with by X-ray methods will permit better identify patients with signs of malignant lesions of the lower limbs.

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