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Patent: MD 1471

Metodă de diagnostic al accidentului vascular cerebral ischemic la copii

Invenția se referă la medicină, în special la neurologia pediatrică, neonatologie, pediatrie și poate fi utilizată pentru diagnosticarea precoce a dereglărilor neuropsihomotorii la copii, care au suportat accident vascular cerebral ischemic. Esența invenției constă în aceea că pacientul de vârstă pediatrică se examinează clinic și paraclinic, se stabilește tabloul clinic de lezare a structurilor cerebrale, totodată, se colectează 2...3 ml de sânge venos, se centrifughează, se separă serul sangvin și se păstrează la o temperatură constantă de -20°C , se determină concentrația serică a factorului de creștere endotelial vascular, în cazul, când concentrația serică este mai mare de 296,23 pg/ml, se diagnostichează prezența accidentului vascular cerebral ischemic

Domenii de aplicare: medicina experimentală, neurologie, neurologie pediatrică.

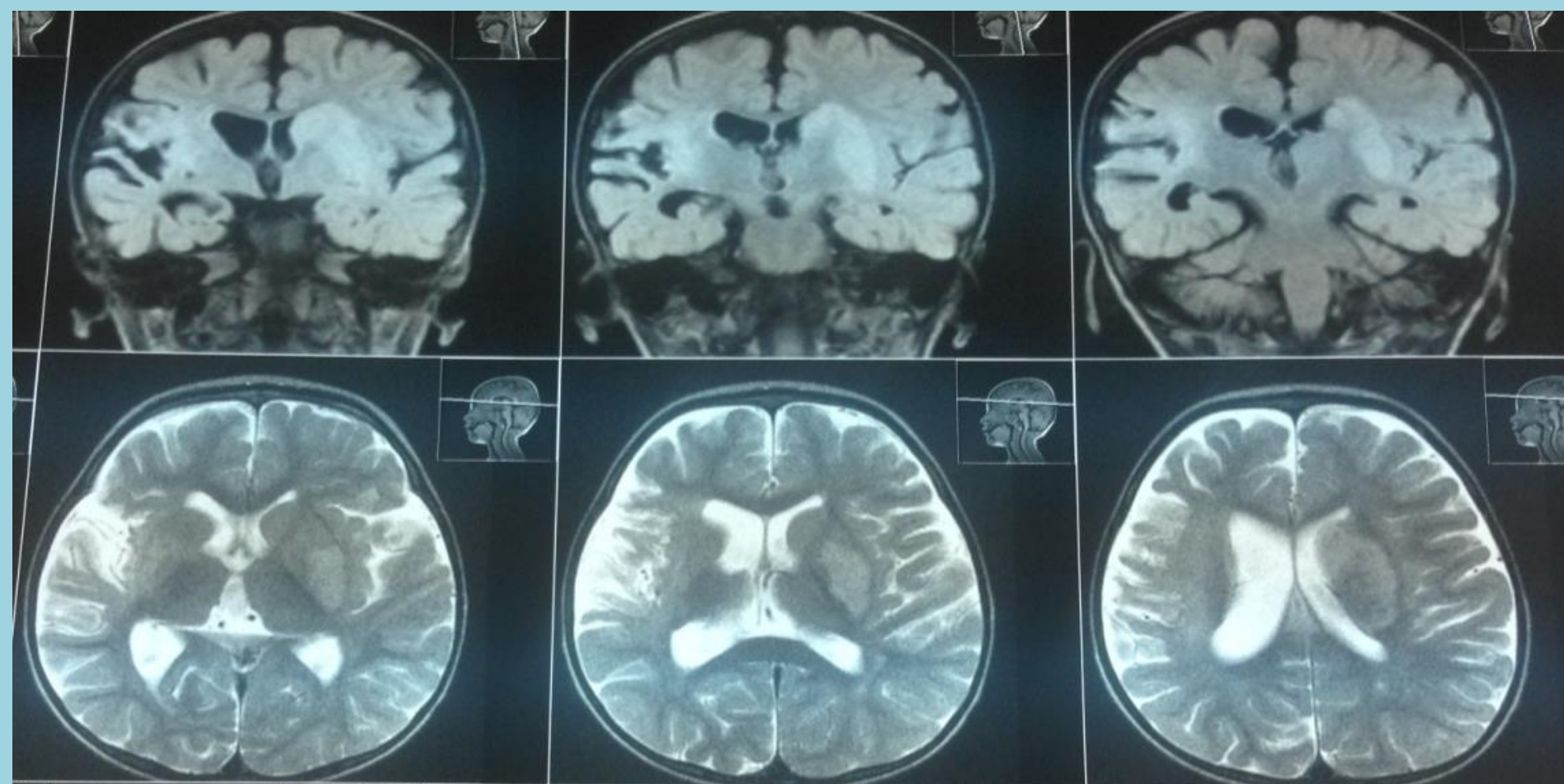


Figure 1. Brain MRI, the case of the child A.G., aged 2 years and 7 months, who presented with middle cerebral artery ischemic stroke on the left. An area of cytotoxic edema is observed in the region of the basal nuclei on the left, with the predominant involvement of the caput of the caudate nucleus and putamen. Ex vacuo enlargement of the lateral ventricle on the right on the background of post-ischemic cystic changes with gliosis at the level of Insula on the right. Signs of diffuse cortical atrophy.

Medium values of markers in acute phase were as follows VEGF – 613.41 ± 39.299 pg/ml ($F=60.701$, $p<0.001$), which were significantly different from the levels in control sample.

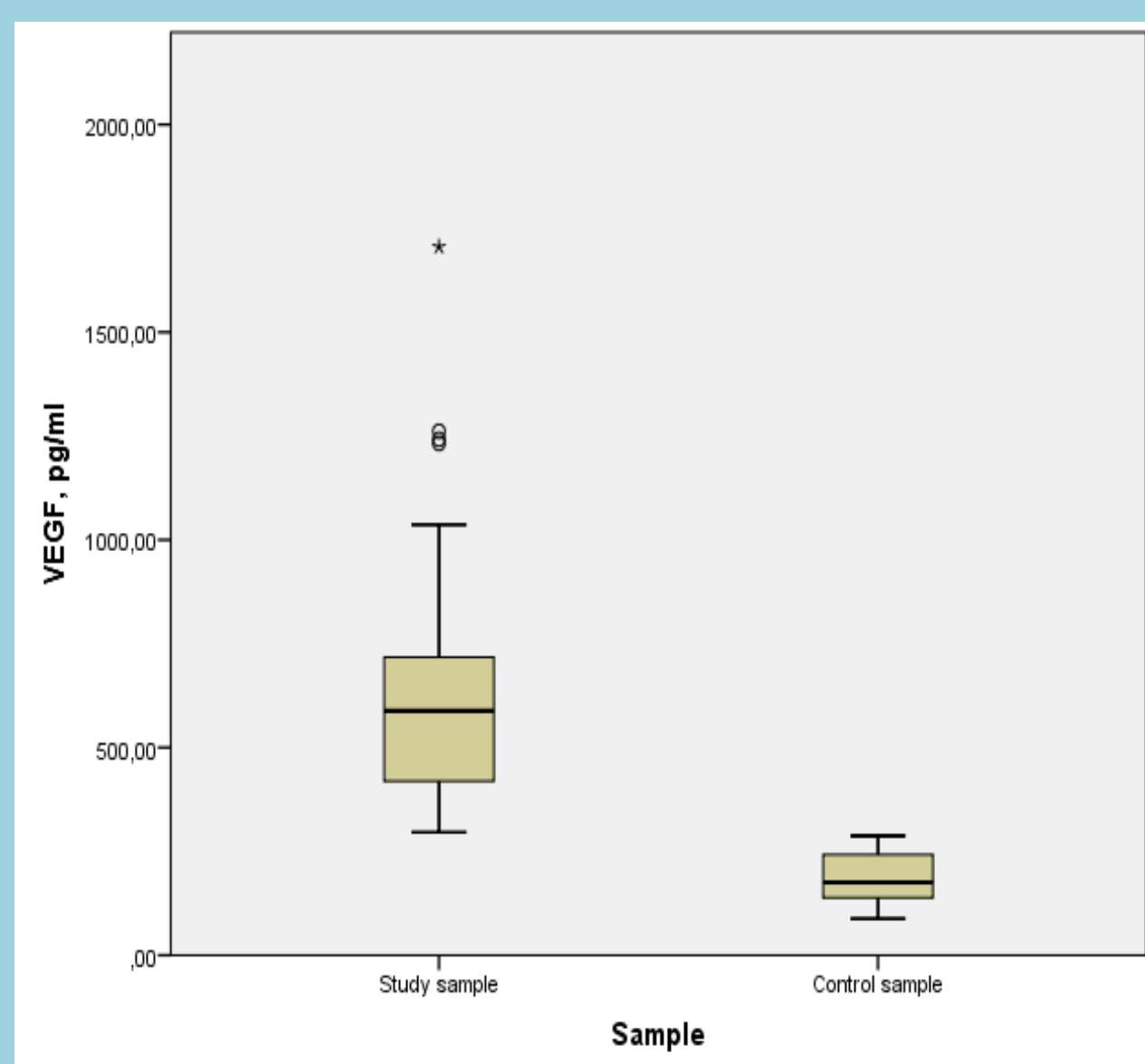


Figure 3. Serum levels of VEGF protein in children with IS compared to the sample of “practically healthy” children, pg/ml.

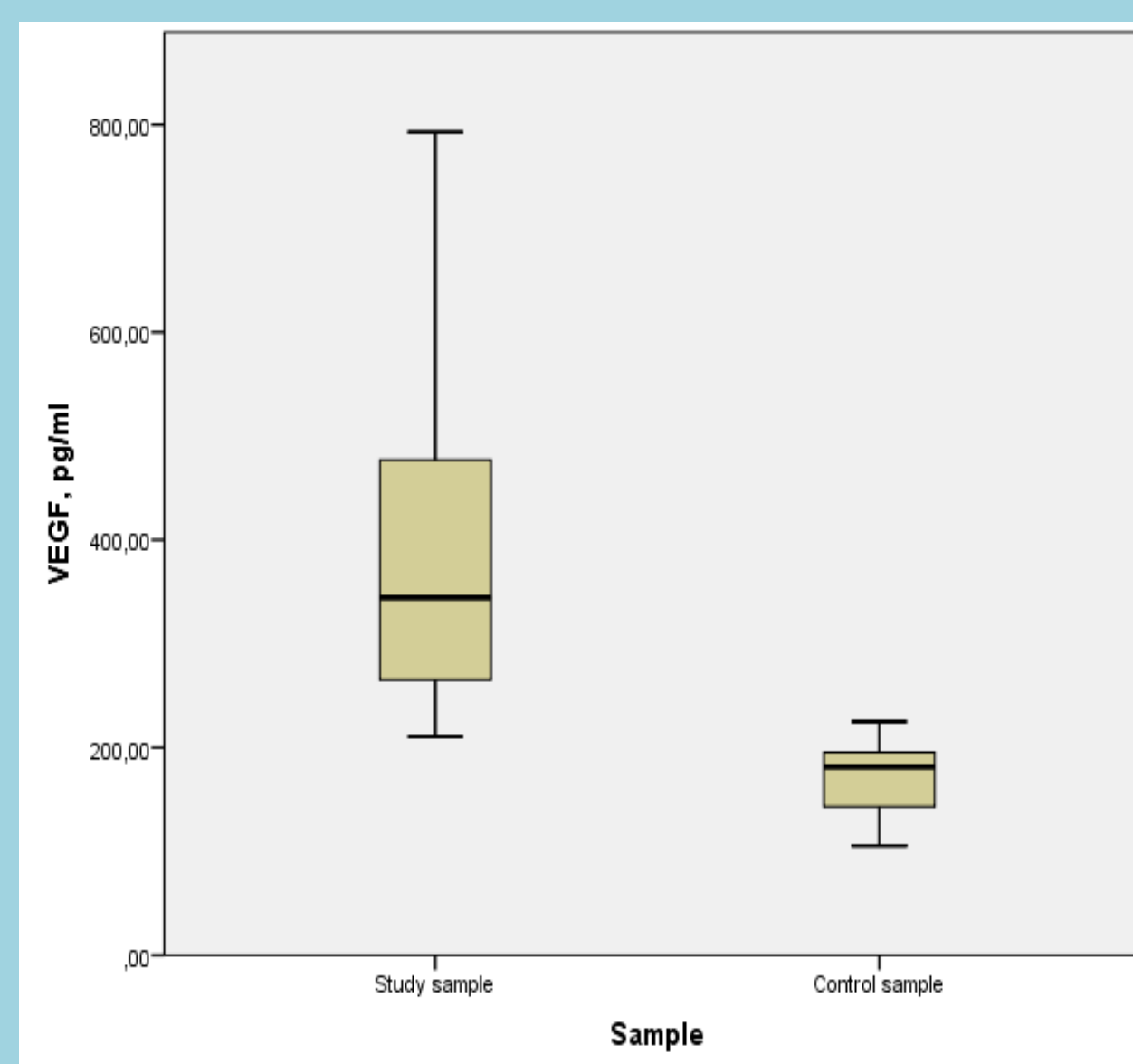


Figure 4. Mean serum levels of VEGF 6 months after IS in study sample compared to the sample of “practically healthy” children, pg/ml.

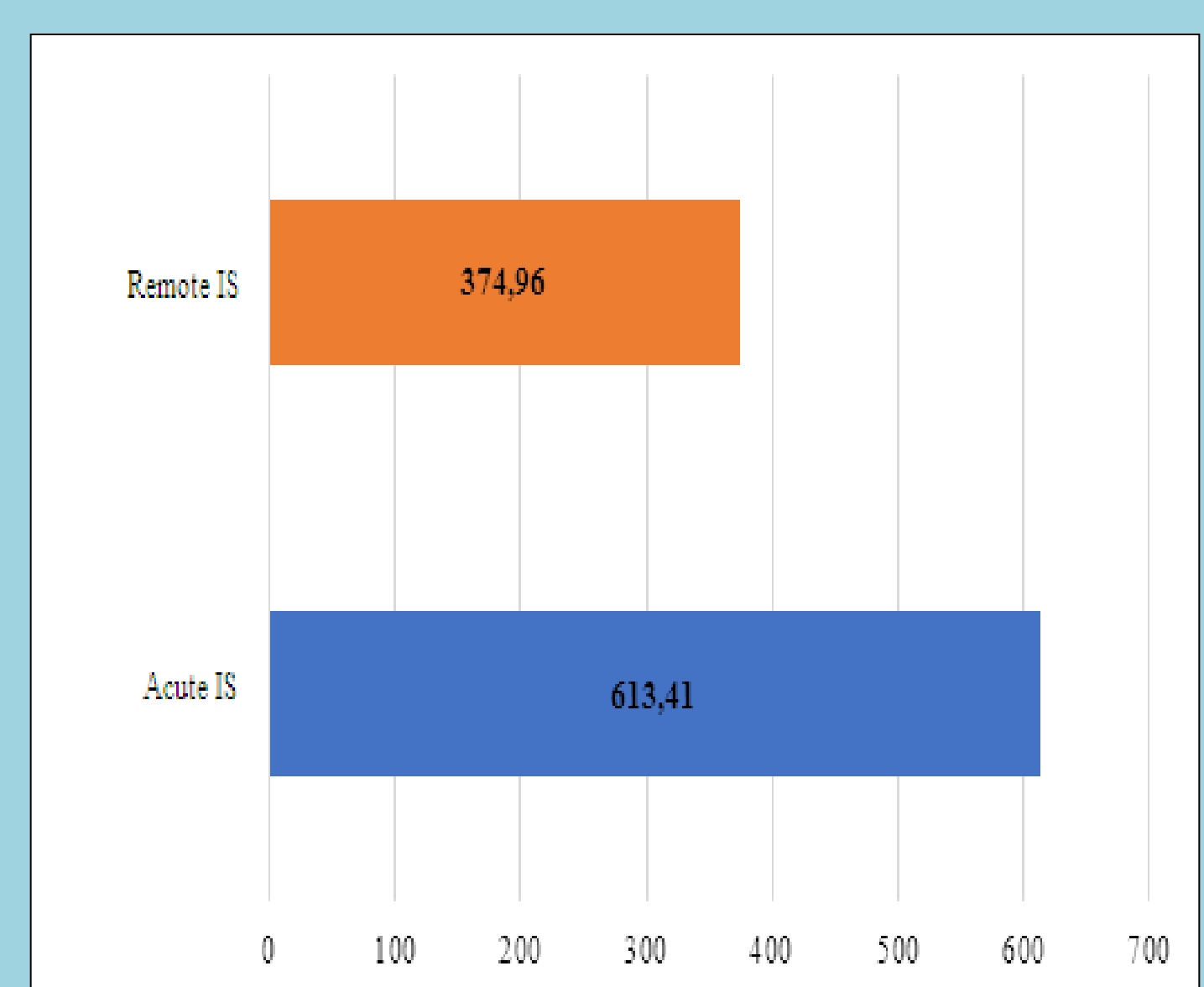


Figure 5. Mean level of VEGF in children after IS over time, in acute period and after 6 months, pg/ml.

Method for diagnosing ischemic cerebral stroke in children

The invention relates to medicine, in particular to pediatric neurology, neonatology, pediatrics, and can be used for early diagnosis of neuropsychomotor disorders in children who have undergone ischemic cerebral stroke. Summary of the invention consists in that the patient of pediatric age is clinically and paraclinically examined, it is established the clinical cerebral structure affection picture, at the same time it is sampled 2...3 ml of venous blood, it is centrifuged, it is separated the blood serum and stored at a constant temperature of -20°C , it is determined the serum concentration of vascular endothelial growth factor, in the case when the serum concentration is more than 296.23 pg/ml, the presence of ischemic cerebral stroke is diagnosed.

Fields of application: experimental medicine, neurology and pediatric neurology.

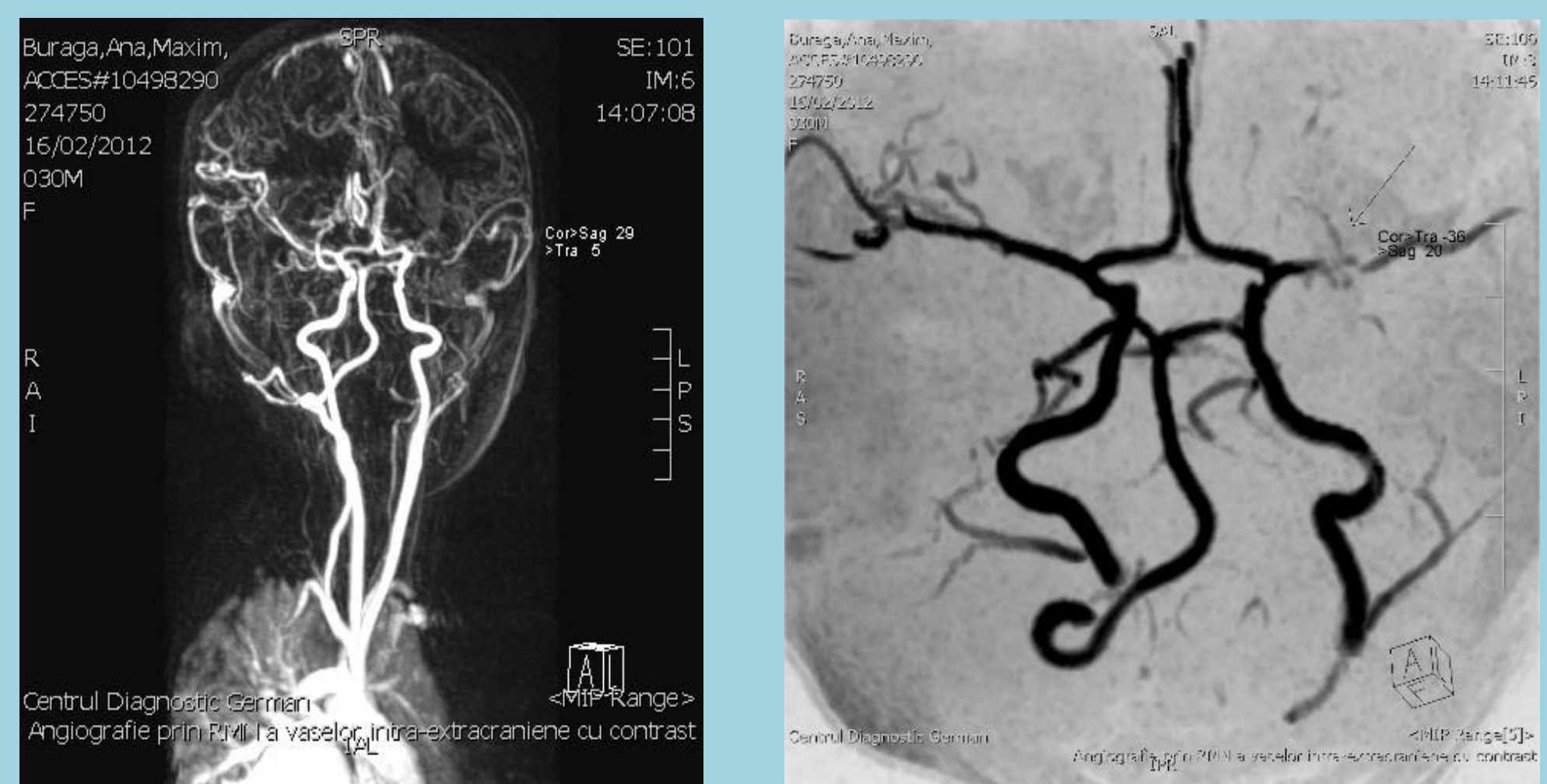


Figure 2. Contrast magnetic resonance angiography at the level of intra- and extracranial vessels, the case of the child A.G., aged 2 years and 7 months. A. Pronounced stenosis of the M1 segment of the middle cerebral artery on the left is observed. B. Hypoplasia of the V4 segment of the vertebral artery on the left is observed.

Immunological assays were as follows: VEGF – 1232.47 pg/ml.