

Aneurysm of the left kidney middle segmental artery

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Renal artery aneurysms (RAA) is relatively rare disease: their frequency in the general population is up to 0,09 % [2]. Morphologically RAA can be classified into saccular, fusiform and dissectional. Artery aneurysm is defined as a local increase in its diameter for more than 50 % compared to surrounding unmodified area [2].

RAA causes [2, 7, 8]. **Hereditary factor.** Congenital aneurysm practically is not diagnosed until complications appear. **High blood pressure.** May develop on the background of arterial hypertension. If the pathology is additionally burdened by stenosis formation, the rupture of the vessel walls occurs in 90-95 % of cases. **Atherosclerosis** – sclerotic plaques lead to the vessels structure changes and to the walls expansion. At the advanced stage thrombosis and stenosis are diagnosed, and occlusion is often observed, that leads to artery rupture. **Pregnancy** – altered hormonal background, constant load on the internal organs due to sharp increase in body weight leads to the onset of the traumatic aneurysm form. **Posttraumatic and iatrogenic RAA** – after biopsy, nephrostomy.

By localization RAA are classified into parenchymal and intraparenchymal. Extraparenchymal

are more common and localized in middle and distal thirds of the renal artery with a tendency to the formation of vessel bifurcation. Up to 60% of RAA are localized on the bifurcation of the renal artery main trunk [1, 2].

In most cases RAA is the occasional finding at CT, MRI or US [3-8]. Sometimes RAA can be symptomatic and it may cause hypertension and hematuria. **Treatment is exclusively surgical** [3-6]. Visualized stenosis is the indication for surgical interventions. The most common are the following. **Bypass surgery** creates blood flow bypassing the pathological area of the artery. **Angioplasty** – inflating balloon introduction into the artery dilating it. **Stenting** – artery dilating with elastic or mesh stents. **Prosthetics** – when it is impossible to perform angioplasty or stenting the narrowed area is excised, then it is replaced with implant. **Nephrectomy** – removal of hardly working kidney. Indication: multiple stenosis.

Patient (female) H., 31. Complaints at admission: pain in the region of left kidney. Pregnancy and trauma are denied. US investigation. Conclusion: left kidney subcapsular hematoma, RAA (Fig. 1-3). CT investigation. Conclusion: left kidney hematoma (Fig. 4).

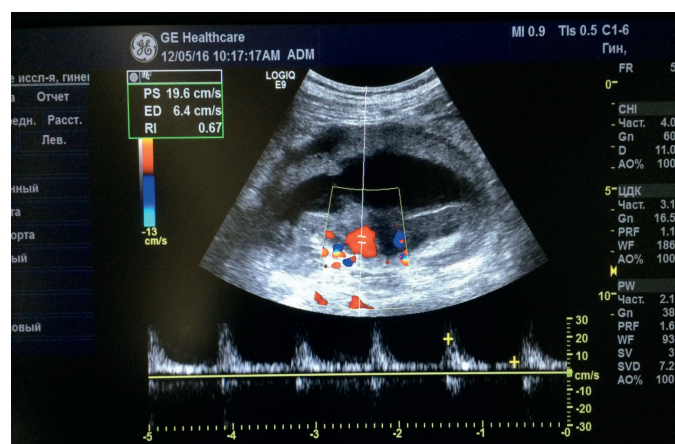


Fig. 1. US of the left kidney. Colored and pulse-wave Doppler. Anechogenic component - subcapsular hematoma. Red section - projection of the renal artery aneurysm.



Fig. 2. Aneurysm of the artery in B-flow mode.

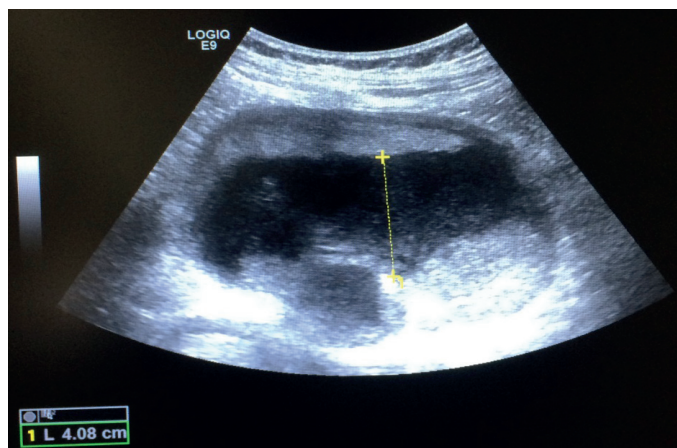


Fig. 3. Left kidney hematoma in B-mode.



Fig. 4. CT. Left kidney hematoma.

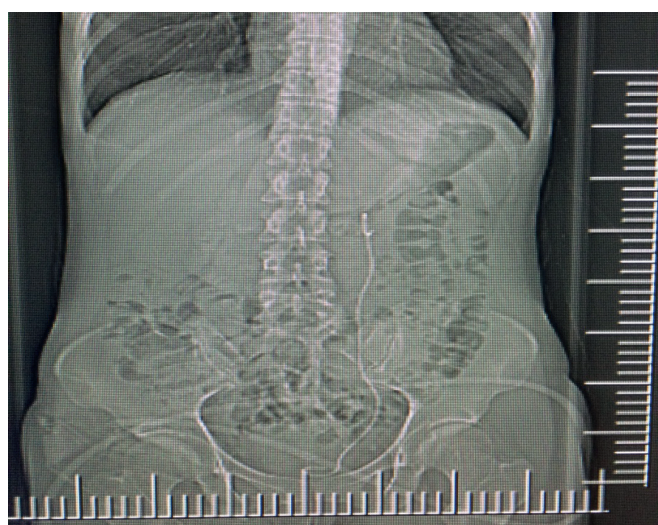


Fig. 5. Stent in the left ureter and in the left renal pelvis at control study.

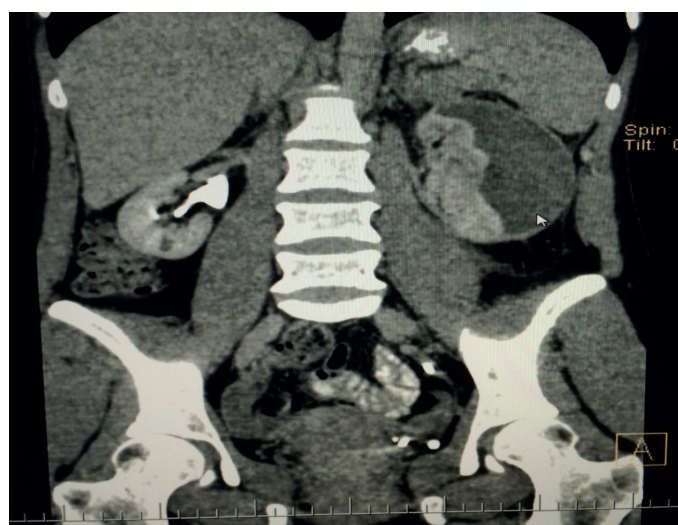


Fig. 6. CT: left kidney hematoma, hemangioma in right kidney parenchyma.

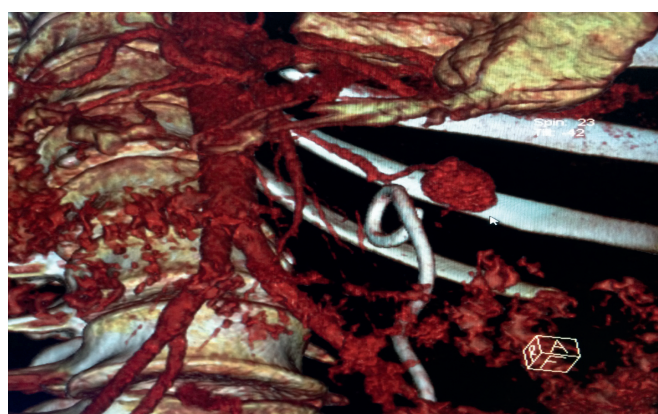


Fig. 7. Colored 3D-reconstruction of large vessels, aneurysm and stent.

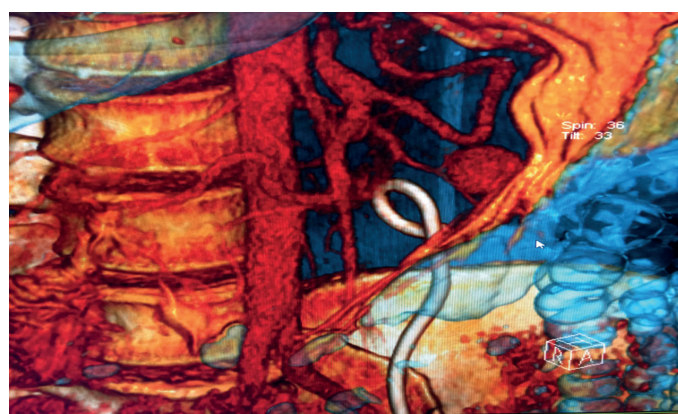


Fig. 8. Colored 3D-reconstruction of large vessels, aneurysm and stent.

The therapy was performed by the method of stent-assisted embolization of RAA because of the renal artery ureteropelvic segment compression with hematoma: stent was installed to preserve re-

sidual kidney function. On the 3^d day – CT, colored 3D reconstruction of large blood vessels, RAA and stent (Fig. 5-9). Conclusion: left kidney hematoma, small hemangioma in right kidney parenchyma.

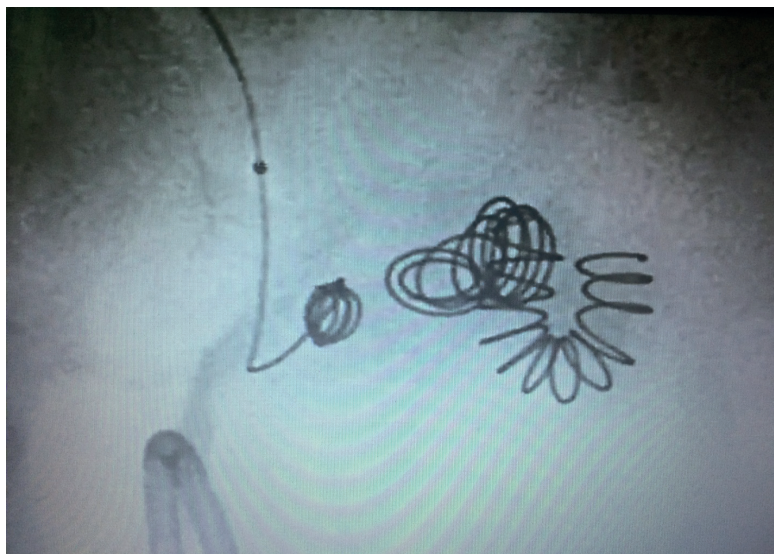


Fig. 9. X-ray image of the stent and coils, introduced into the aneurysm cavity for its shutoff.

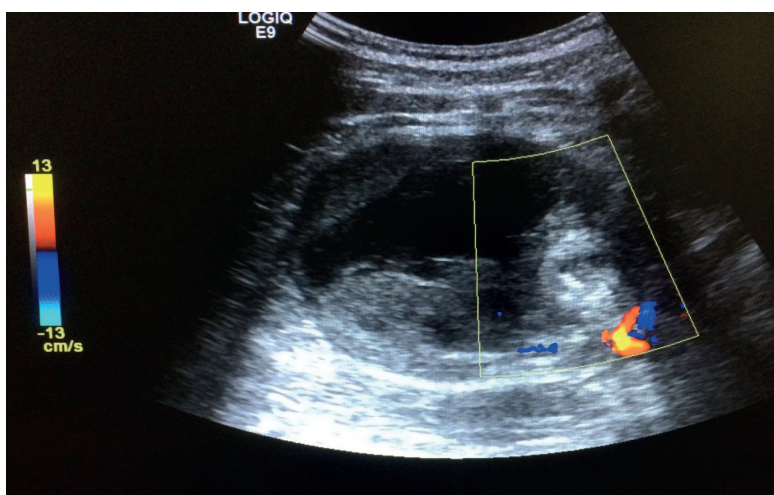


Fig. 10. Kidney after aneurysm embolization: the arrow indicates the projection of shutoff aneurysm.

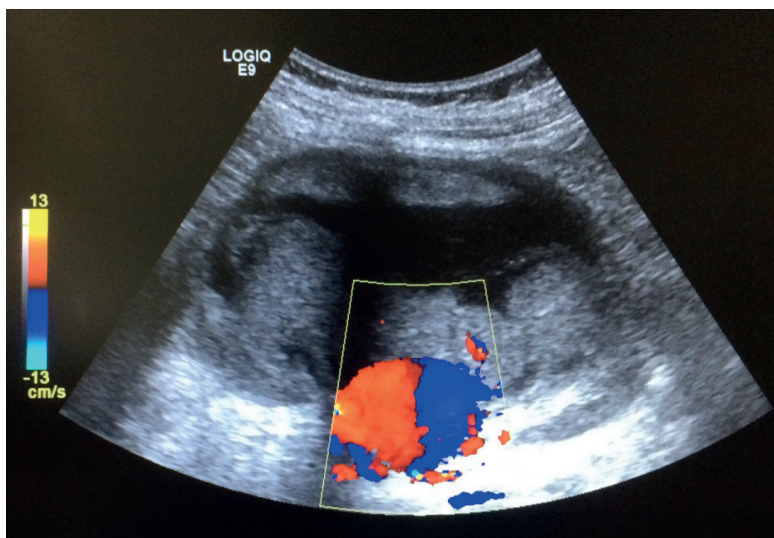


Fig. 11. Control left kidney US after embolization: hematoma, blood vessels of the kidney gate, aneurysm was not visualized.

On the 10th day – US investigation (Fig. 10-11). The patient was discharged in satisfactory condition.

Control US after 6 months after embolization: hematoma is not detected; hypoechoic area corresponding to embolized RAA is visualized.

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Renal artery aneurysms (RAA) are a relatively rare disease: their incidence in the general population is up to 0,09 %. In most cases, RAA is an accidental finding with CT, MRI or US. The process of diagnosis (US, CT) and treatment (stenting with embolization) of 31-year-old patient with middle segmental artery aneurysm of the left kidney is described.

АНЕВРИЗМА СЕРЕДНЬОЇ СЕГМЕНТАРНОЇ АРТЕРІЇ ЛІВОЇ НИРКИ

O.I. Мухомор, O.I. Железко, Є.С. Буцко, O.M. Михальченко, М.В. Дегтярюк, Л.М. Штомпель, І.І. Бужава

Аневризми ниркової артерії (АНПА) – відносно рідкісне захворювання: їх частота в загальній популяції становить до 0,09 %. У більшості випадків АПА – випадкова знахідка при КТ, МРТ або УЗД. Описано процес діагностики (УЗД, КТ) та лікування (стенкування з емболізацією) хворої 31 року з аневризмою середньої сегментарної артерії лівої нирки.

АНЕВРИЗМА СРЕДНЕЙ СЕГМЕНТАРНОЙ АРТЕРИИ ЛЕВОЙ ПОЧКИ

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Аневризмы почечной артерии (АПА) — относительно редкое заболевание: их частота в общей популяции составляет до 0,09 %. В большинстве случаев АПА – случайная находка при КТ, МРТ или УЗИ. Описан процесс диагностики (УЗИ, КТ) и лечения (стенмирование с эмболизацией) больной 31 года с аневризмой средней сегментарной артерии левой почки.