

KEY OPINION LEADERS (KOL) FORUM

Uncommon malformation of right kidney and inferior vena cava

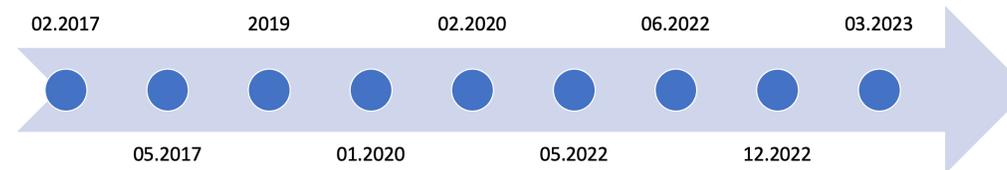
L. Wielocha MD, 27.03.2024

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1. ABOUT THE PATIENT

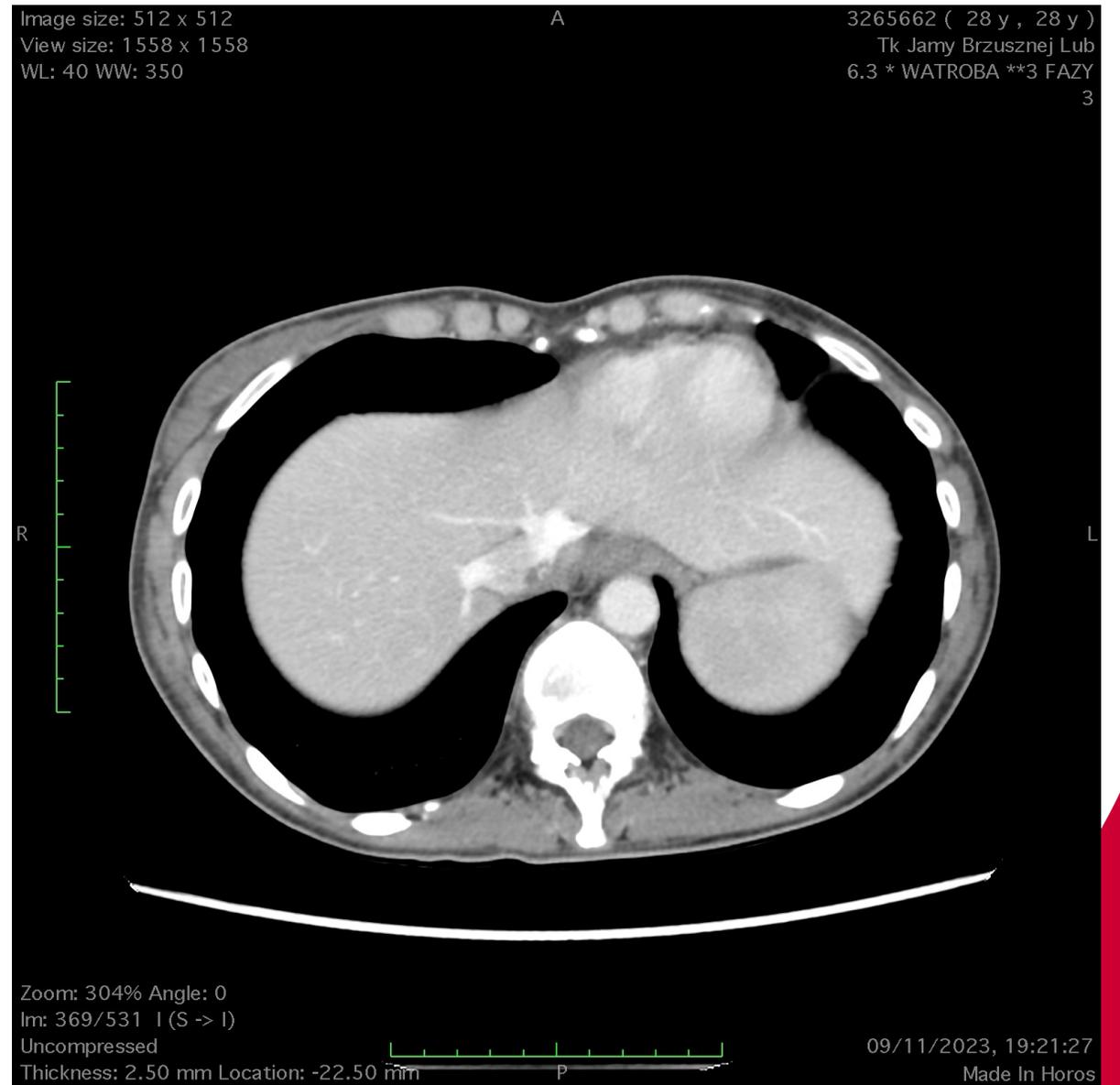
- 28 y.o. female
 - 1st hospitalization in our Department on 19 Sep 2023 due to unsuccessful prior treatment attempts – Complex malformation of right kidney and inferior vena cava
 - Presenting symptoms:
 - general fatigue,
 - night sweats,
 - susp. infectious background in right renal pelvis compression
 - Recurrent UTI, creatinine on admission 0,68
 - Hypothyroidism (Hashimoto Disease)
 - Malnutrition
 - Vit D deficiency
 - Right ovarian cyst, Uterine body polyp
 - Depression
- Medications:
 - ASA 75mg 1x1
 - rivaroxaban 20mg 1x1
 - pantoprazole 20mg 1x1
 - metoprolol 50mg 1x1
 - cholecalciferol 2000iu
 - potassium 2x1
 - mianserine 30mg 1x1
 - sertraline 50mg 1x1
 - Status post congenital duodenal obstruction repair (Ladda syndrome, 12 d.o.)
 - Status post 2x CC (severe pre-eclampsia, 2018, 2021)
 - Status post massive pulmonary embolism (Dec 2022) with subsequent VCI filter implantation

- Complex high-flow arteriovenous malformation of right kidney and inferior vena cava
- Multiple fistulas
- Status post right renal artery aneurysm resection, post right renal vein aneurysm resection (2016)
- Status post multiple embolization attempts – 9x outside our Department (02.2017, 05.2017, 2019, 01.2020, 02.2020, 05.2022, 06.2022, 12.2022, 03.2023)



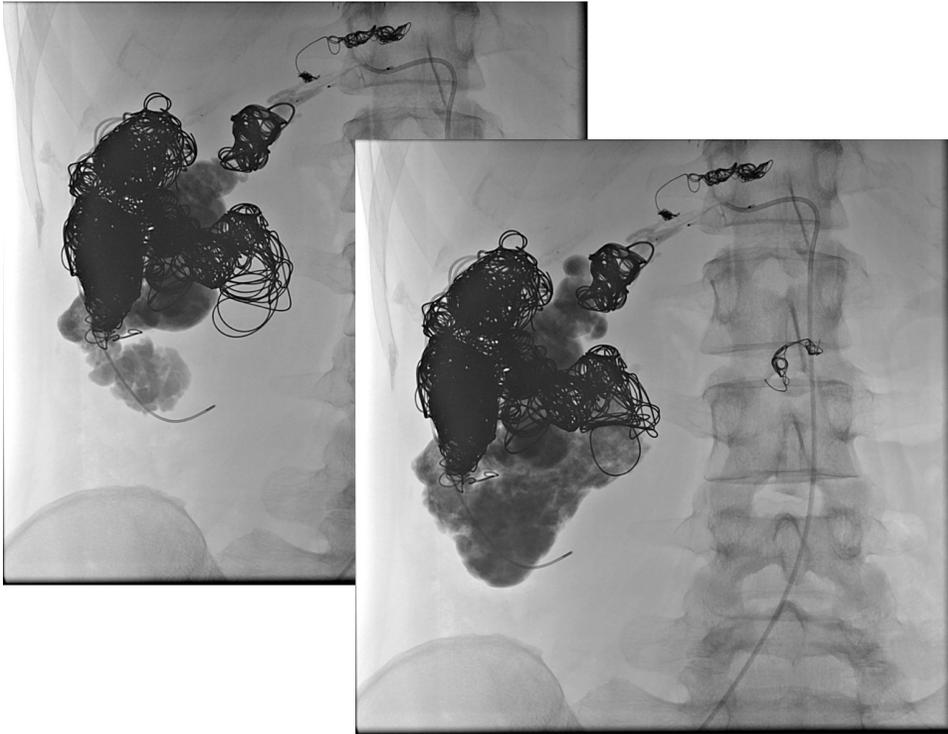
- Status post inferior vena cava aneurysm operation (plication, aneurysmorrhaphy, 2016)
- Control CT (09st Oct 2023) post 1st embolization (02nd Oct 2023) revealed:
 - Aneurysmal dilation of IVC (88mmx60mm) and distal iliac veins
 - Noticeable volume of thrombus in IVC filter
 - Significant part of malformation excluded with Easyx liquid embolic agent + coils
 - Arterial inflow mostly obliterated
 - Remaining two ostial aneurysms of Rx lumbar arteries (19 and 12 mm diameter)
 - Pelvic part of malformation was not embolized – inflow from R IIA branches, nidus likely in uterine wall on Rx side
- Due to all above Pt was qualified for extracorporeal circulation operation (another center, no consent)

2. DIAGNOSIS (2)



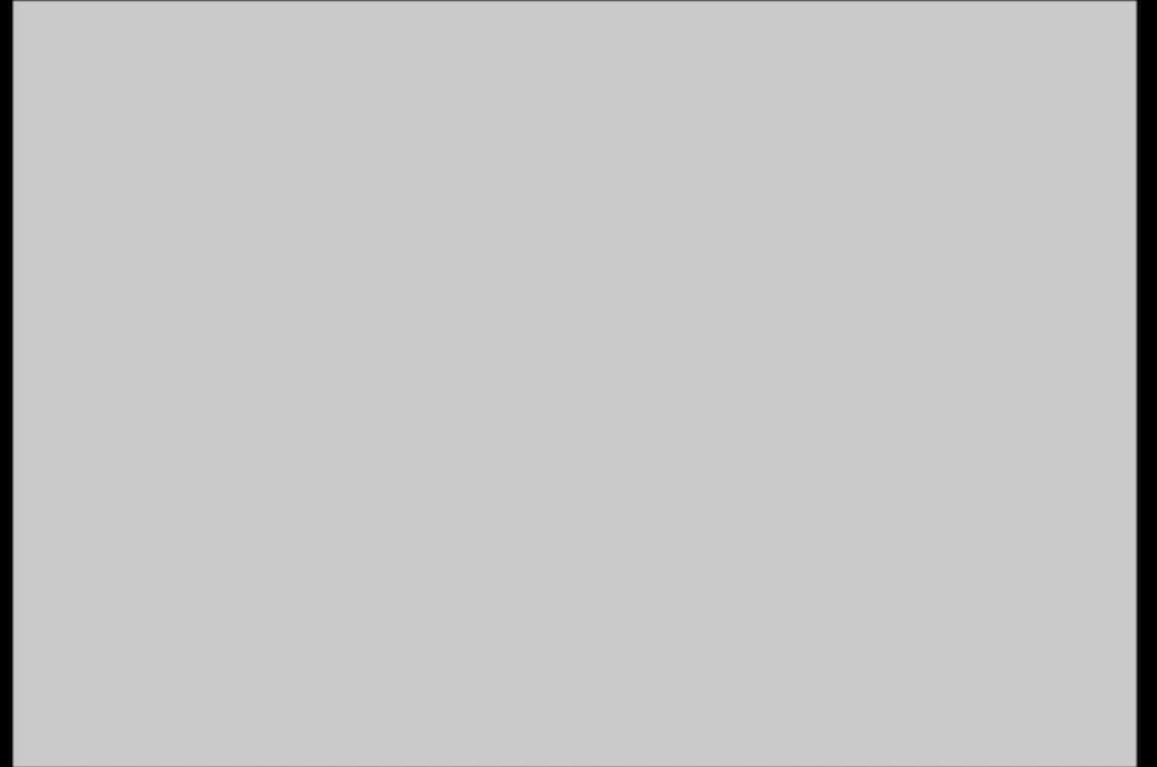
3. TREATMENT (1)

- 26 Sep 2023 0.7 [Gy]
 - Right renal artery occlusion with AMPLATZER IV
 - Malformation outflow embolization with liquid agent EASYX (54 amp.)



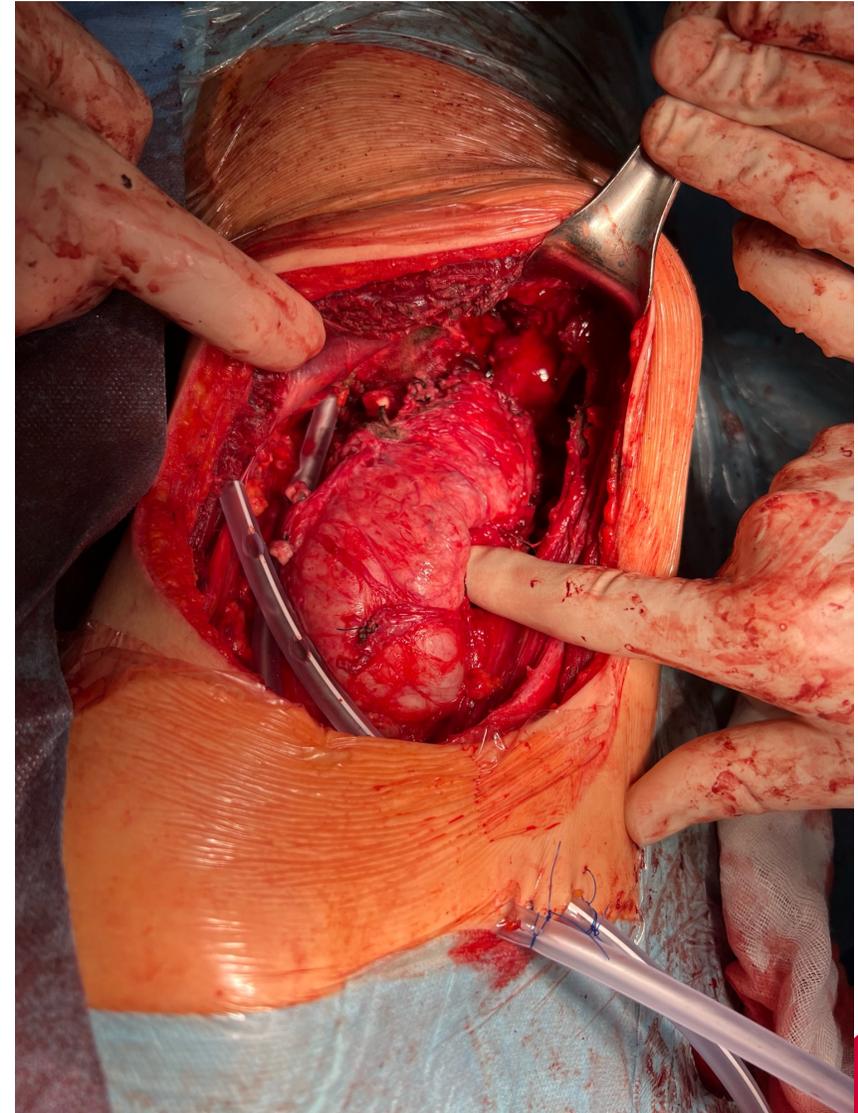
3. TREATMENT (2)

- 02 Oct 2023 2.7 [Gy]
 - Malformation outflow embolization with liquid agent EASYX (54 amp.)
 - Embolic agent migration stabilized with
 - in LCIA: ZILVER 518 7x40 mm implantation
 - in RCIA/REIA: ZILVER 518 7x30 mm implantation

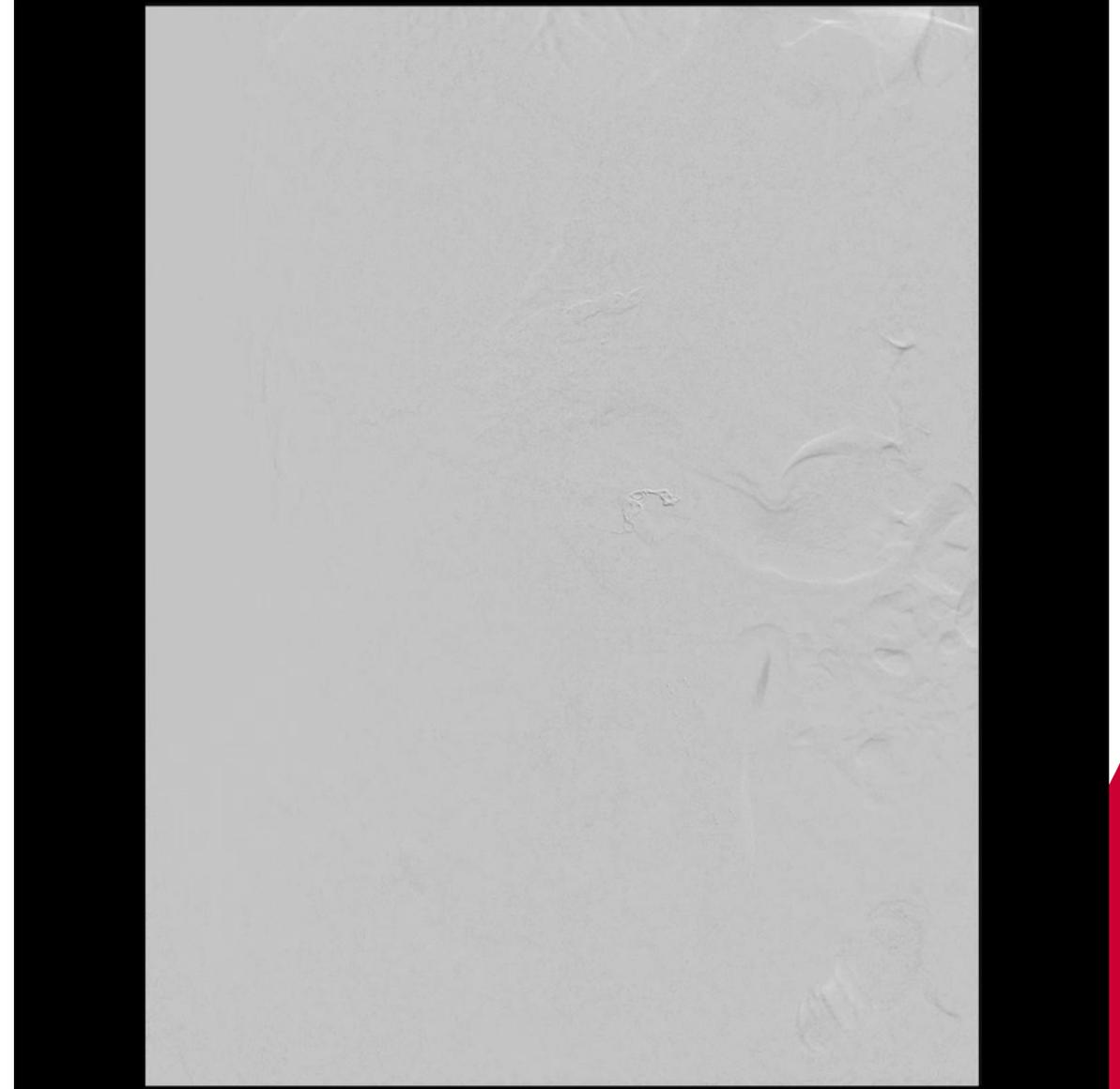
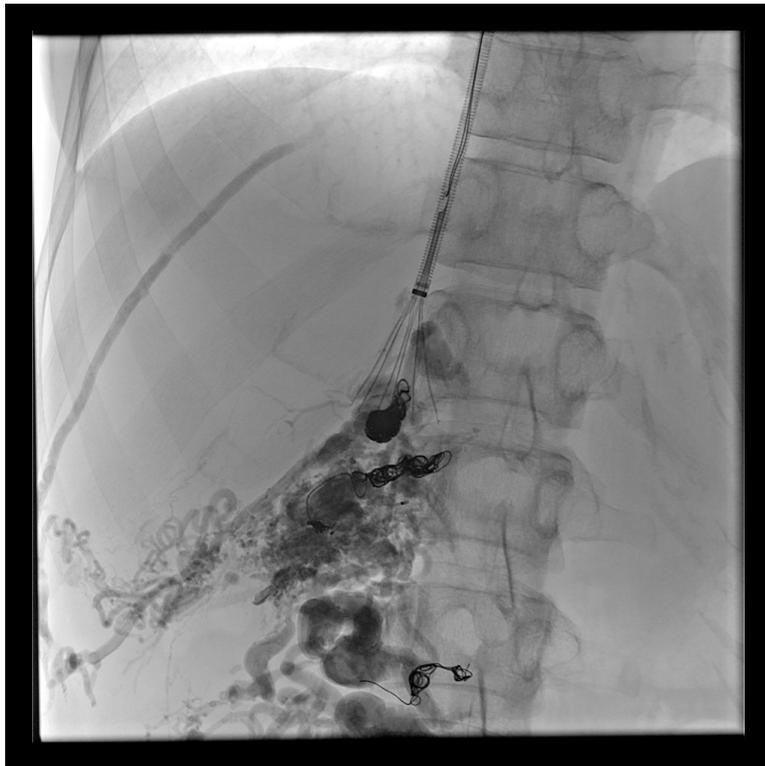


3. TREATMENT (3)

- 12 Oct 2023 Laparotomy. Nephrectomy of malformed kidney
- 12 Oct 2023 Retroperitoneal space revision due to bleeding
 - Extreme technical difficulty!
 - Impossible VCI mobilization and suturing – thick, rigid wall
 - Massive transfusion 10 units RBC and 5 units FFP
 - Creatinine on discharge 0,49
- 03 Nov 2023 Relaparotomy. Retroperitoneal hematoma drainage (next hospitalization)



- Patient doing well, but
High risk for recurrent pulmonary embolism, VCI filter with thrombus, very large thrombus in VCI
- What next?
- 9 Jan 2024 – VCI filter removal



6. TREATMENT (4)



7. CONCLUSIONS & QUESTIONS

- Complex VCI malformation most likely based on both genetic / development factors as well as malformed kidney pressure
- LADD Syndrome role unestablished

- End-stage malformed kidney failure – in histopathological assessment lack of preserved renal parenchyma – fully compensated by left kidney

- Presented case required multimodal / complex treatment
- Malformation embolization was necessary to consider surgical treatment

- Uncommon Vena cava flow diverter concept

- Would You consider other treatment options?