

## Case Report

# Extremely rare case; Venous aneurysm

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Received: 01 December, 2021; Accepted: 24 October, 2022; Published: 12 November, 2022

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## Abstract

Venous aneurysm is very rare especially inferior vena cava (IVC) aneurysm is extremely rare. Etiology is not clear and risk factors can be inflammatory disease, thrombosis, trauma and long term complication of long term right heart failure. Angiography with computer tomography (CTA), magnetic resonance angiography (MRA) and conventional venography can use for diagnose. 30 years old male patient admitted to clinic for lower abdominal pain for a month. Largest diameter in subhepatic region and left renal vein were 67mm and 26mm respectively. Literature there were limited numbers of case described. Because of this reason there was no guide or no adopted treatment approach was defined. Hardest and challenging part is giving the decision of treatment.

**Keywords:** Gradman and Steinberg Classification, Venous aneurysm, Inferior (IVC) aneurysm

## INTRODUCTION

Venous aneurysm is very rare especially inferior vena cava (IVC) aneurysm is extremely rare [1]. Few numbers of IVC aneurysm have been reported. Etiology is not clear and risk factors can be inflammatory disease, thrombosis, trauma and long term complication of long term right heart failure [2]. Also it can be result of embryonic malformation [2].

Angiography with computer tomography (CTA), magnetic

resonance angiography (MRA) and conventional venography can be show the aneurysm in detail [2]. Most of the IVC aneurysm found incidentally in literature [2].

Generally this kind of aneurysms are asymptomatic but it can be presented by deep venous thrombosis (DVT), abdominal pain, pulmonary embolism, lower back pain and kind of a unspecific symptoms like that [1]. Worst complication can be rupture and it can be fatal.

## CITATION

Beyazpinar DS, Şerefli D, Harman A, Akay HT. Extremely rare venous aneurysm. Turk J Vasc Surg 2022;31:186-90.



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Treatment is a challenging situation, if its asymptomatic clinical follow up can be applied. Surgical or interventional operation can be the treatment option in symptomatic patients.

### CASE REPORT

30 years old male patient admitted to clinic for lower abdominal pain for a month. Physical examination, echocardiography and blood tests are totally normal. The patient has no congenital

heart disease in background. CTA performed and inferior vena cava aneurysm detected. Largest diameter in subhepatic region and left renal vein were 67mm and 26mm respectively (Figure 1 A-B and figure 2 A-B). DVT was not detected venous doppler ultrasound. We offered an operation to patient but he refused the operation. We advised him to get a second or third opinion, and we learned that he did not do this either. After first administration his abdominal pain gone away.

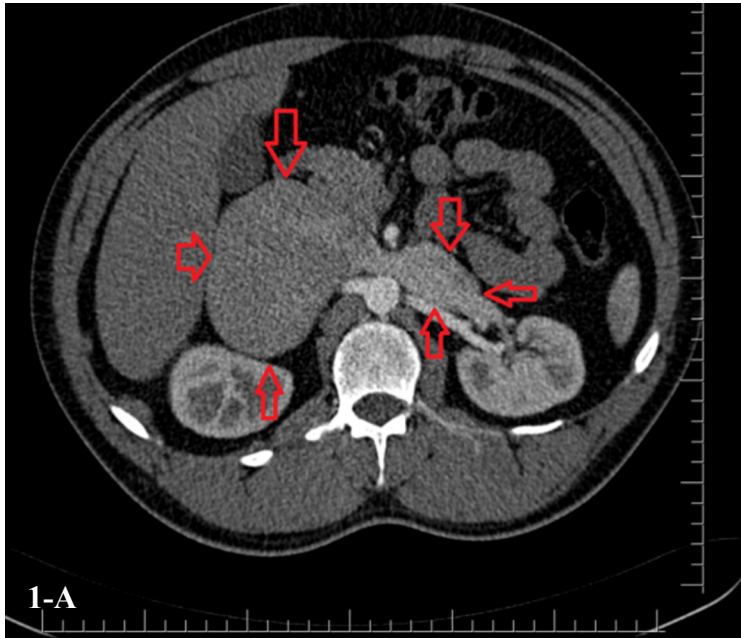


Figure 1 A-B. First CTA

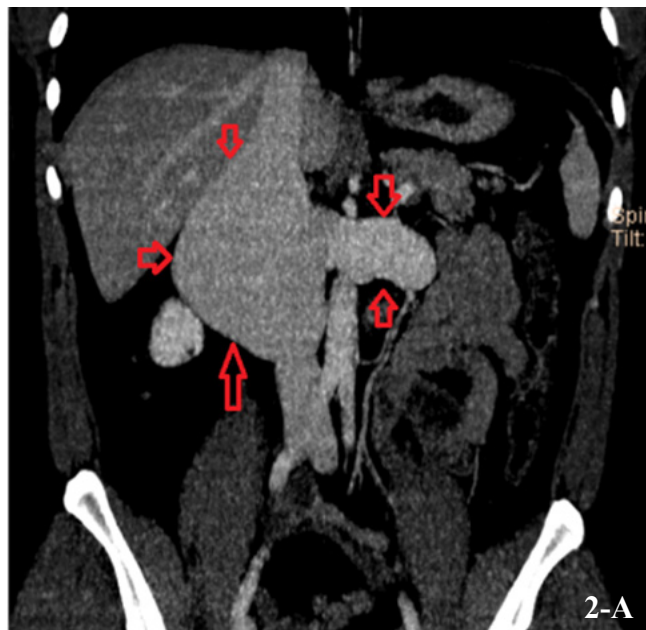
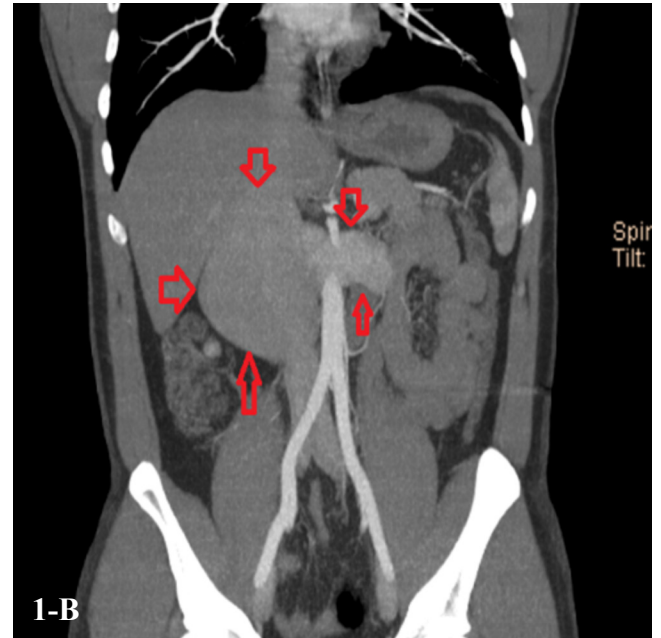
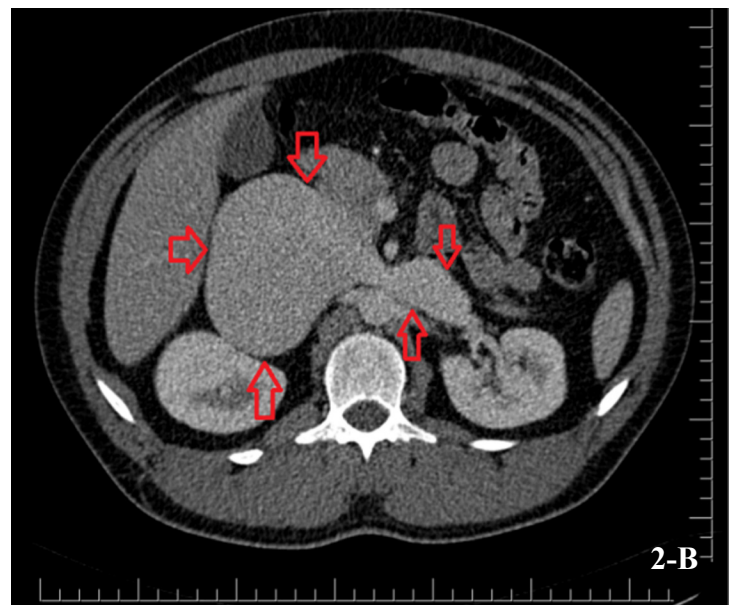


Figure 2 A-B. First CTA



The patient admitted 6 months later for follow up, he had no symptoms and there was no change in the size of the IVC aneurysm. The patient was appointed 6 months later.

January 2018 CTA largest diameters measurements were subhepatic aneurysm 81 mm and left renal vein aneurysm 27mm (Figure 3A-B and figure 4A-B).

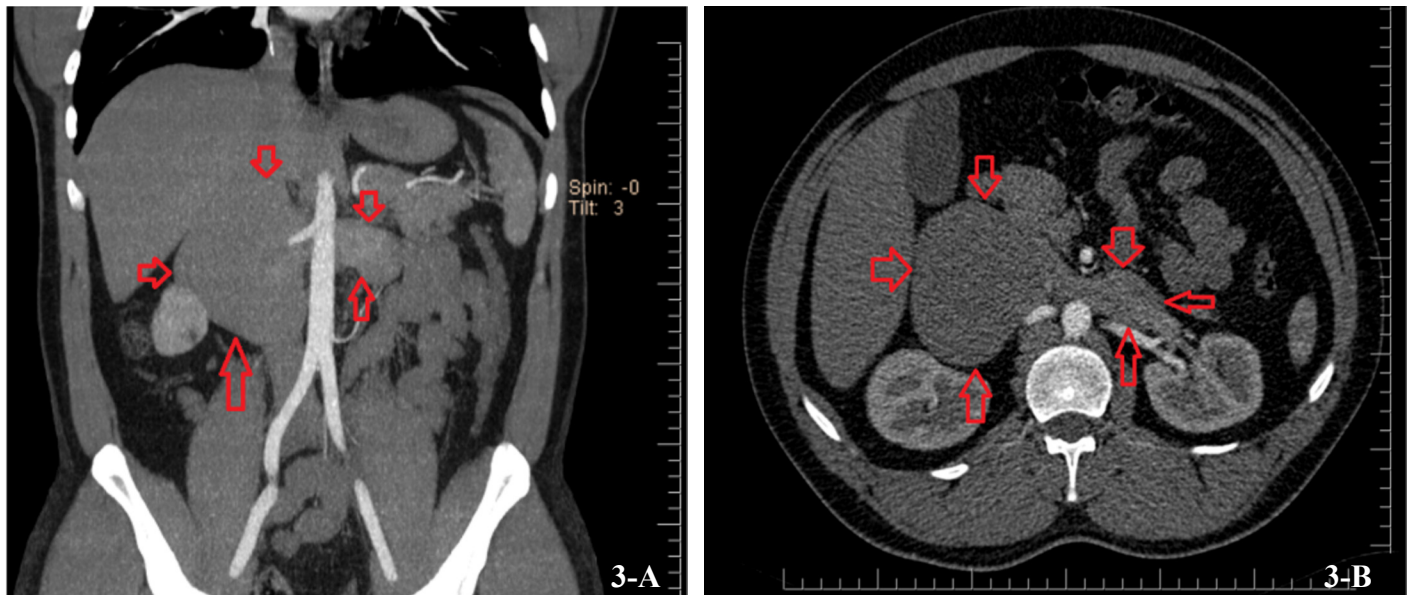


Figure 3 A-B. January 2018 CTA

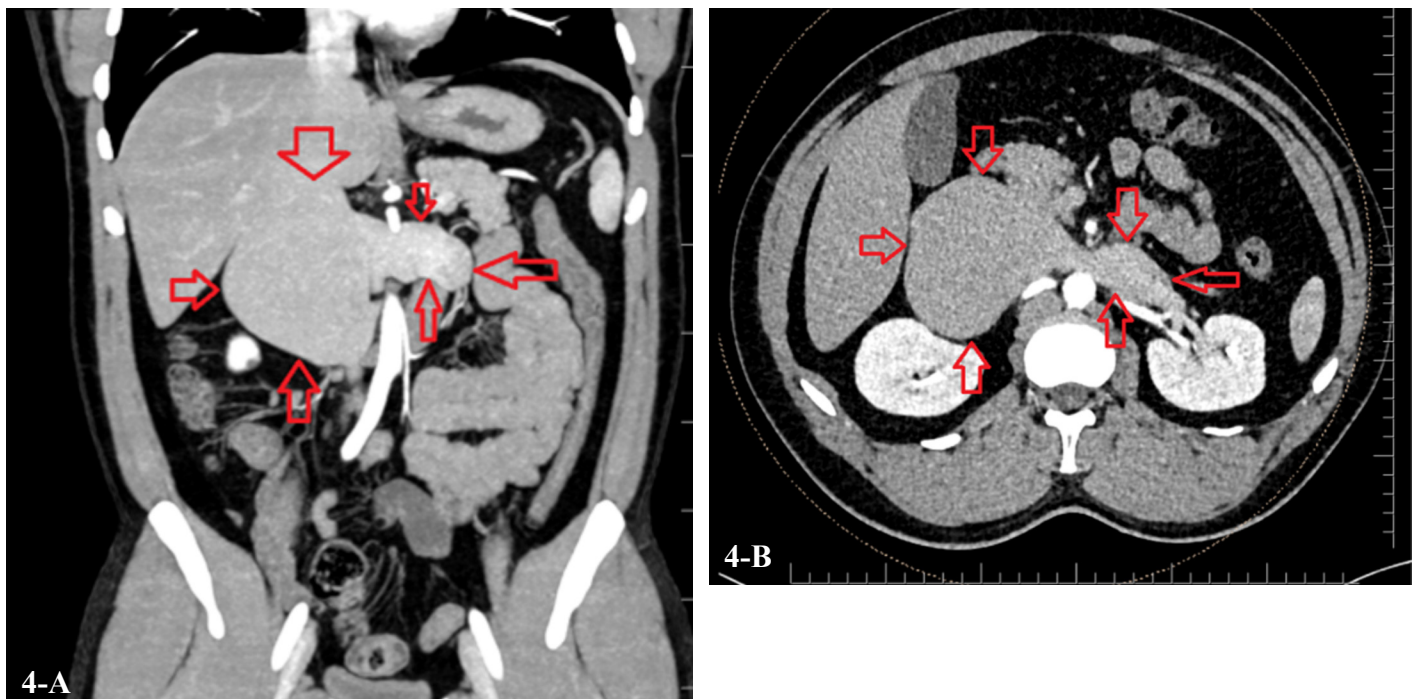


Figure 4 A-B. January 2018 CTA

December 2018 CTA largest diameters measurements were subhepatic aneurysm 78 mm and left renal vein aneurysm 28mm.

November 2020 CTA largest diameters measurements were subhepatic aneurysm 82 mm and left renal vein aneurysm

28mm. The patient was still asymptomatic (Figure 5 A-B).

In this follow up period none of symptoms add on his clinic presentation. His medical treatment was still same from first day to present time and it was acetylsalicylic acid 1x300 mg. In venous doppler ultrasound follow up was clean.

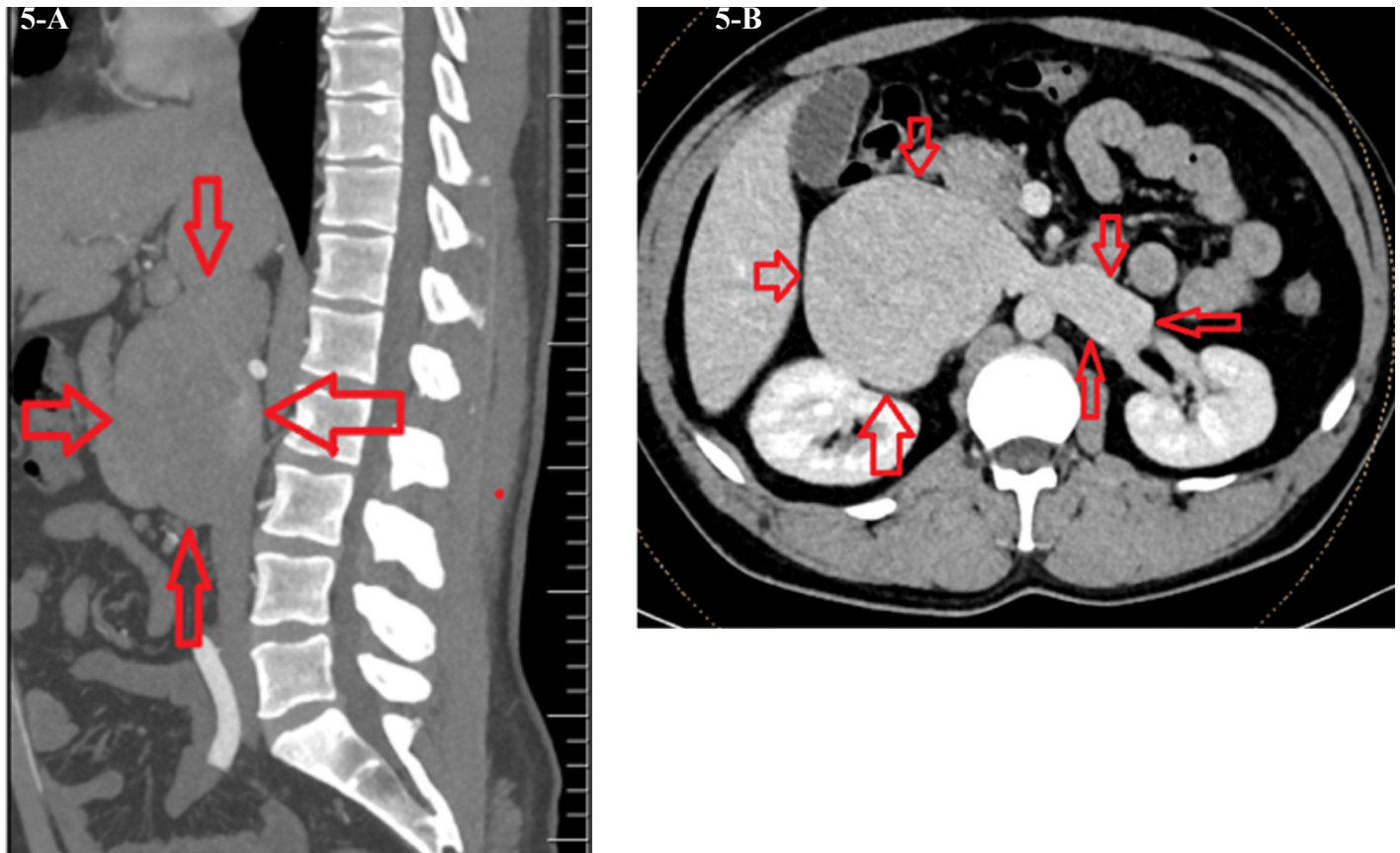


Figure 5 A-B. November 2020 CTA

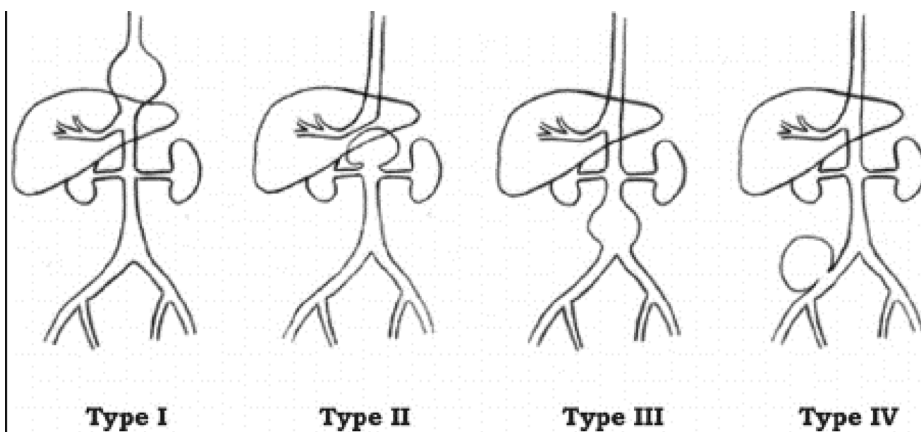


Figure 6.

## DISCUSSION

IVC aneurysm describe as twice or more bigger than normal diameter 1,7-3,5cm and isolated in inferior vena cava [3-5]. Pathophysiological risk factor are trauma, inflammatory processes, long standing hypertension and congenital defects [6-7]. Gradman and Steinberg Classification describe aneurysm location. In type 1 aneurysm located upper then hepatic vein, type 2 between hepatic and renal veins, type 3 between renal veins and vena cava bifurcation and type 4 is underbifurcation (show in figure). Also there is another classification which is describe by Thompson and Lindenaur. This classification is based on ethiological background [8].

Inferior vena cava aneurysm is very extremely rare type of aneurysm and in literature there were limited numbers of case described. Because of this reason there was no guide or no adopted treatment approach was defined. Hardest and challenging part is giving the decision of treatment. In our case we select to follow patient with medical therapy due to lack of symptoms. In our follow up with CTA there is no significant difference in follow up. As a result medical treatment may be an option in asymptomatic patients.

### Conflict of interests

The authors declare that there is no conflict of interest in the study.

### Financial Disclosure

The authors declare that they have received no financial support for the study.

### Patient Consent for Publication

A written informed consent was obtained from the both patient.

### Data Sharing Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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