"Shaggy Aorta"
- Endovascular Treatment-

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"Shaggy Aorta"

A colloquial description for severe arterial degeneration of the aorta, the surface of which is extremely friable and likely to cause atheroembolism.

- The incidence of mural aortic thrombi remains unknown.
- Diffuse atheromatous embolization from aortic atherosclerotic disease is a poorly understood disorder.

Diffuse embolization can cause progressive or acute renal failure, pancreatitis, bowel infarction and lower extremity ischemia.

- The therapy for intra-aortic thrombi remains undefined.
- Antiplatelet therapy or anticoagulation are of unproven efficacy.

Cholesterol microembolization syndrome: a complication of anticoagulant therapy.*Varis J, Kuusniemi K, Järveläinen H. CMAJ. 2010 Jun 15; 182(9):931-3. Epub 2010 Mar 22.*

Purple toes syndrome associated with warfarin therapy in a patient with antiphospholipid syndrome.*Talmadge DB, Spyropoulos AC. Pharmacotherapy. 2003 May; 23(5):674-7.*

Purple toes and livido reticularis in a patient with cardiovascular disease taking coumadin. Cholesterol emboli associated with coumadin therapy.*Park S, Schroeter AL, Park YS, Fortson J. Arch Dermatol. 1993 Jun; 129(6):777, 780.*

There is no really effective medical treatment for the “shaggy aorta” syndrome.

Commentary

Commentary on "Role of Endovascular Therapies in the Management of Diverse Thoracic Aortic Pathology"

Perspectives in Vascular Surgery and Endovascular Therapy
Volume 19 Number 2
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Robert Y. Rhee, MD

Thoracic aortic pathology has always been difficult to treat surgically because of the morbidity and mortality associated with direct open repair. Any direct, open, reconstructive procedure on the thoracic aorta is frequently associated with long-term disability and significant risks of paralysis. Therefore, unless the pathology was immediately life threatening (like a 10 cm aneurysm), conservative management algorithms based on careful follow-up often disallows directed treatment. It is often not enough to treat (cover with an endograft) the most severely diseased segment of the aorta, because it has not been clearly determined that the most significant areas (as determined by an imaging study) are in fact the source of the embolization. As such, most of these patients should be treated conservatively. In addition, the endovascular manipulation inside a "sheepy" aorta may propagate or even

2013
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Endovascular treatment of “shaggy aorta” syndrome

Dr. Gaudencio Espinosa

Report:

We report our experience of three recurrent peripheral arterial embolisms caused by a mobile thrombus of the descending aorta, which were successfully treated by endovascular approach implanting an endovascular stent graft.

CASE I

•MCB, 88 years, hypertension, diabetes.

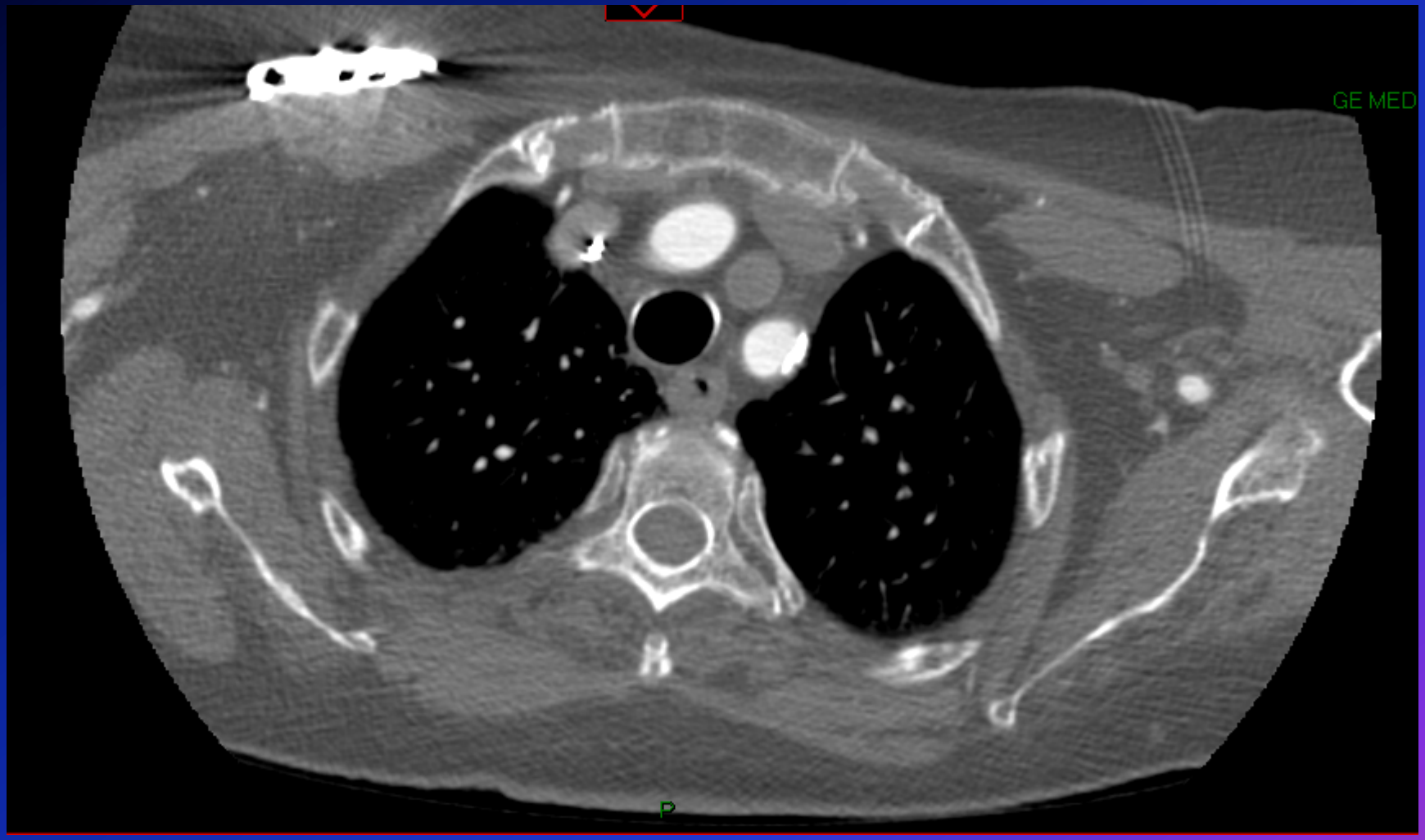
•Fall from height, being found aphasic and without interaction with the environment.

Hospitalized with clinical improvement and awake. Motor sequel known prior stroke and symptoms of senile dementia (Alzheimer's).

•Carotid Doppler ultrasound: acute occlusion of left common carotid artery.

•Transthoracic ultrasound showed extensive intraluminal thrombus of the entire descending thoracic aorta.

•Performed angiography – CT study.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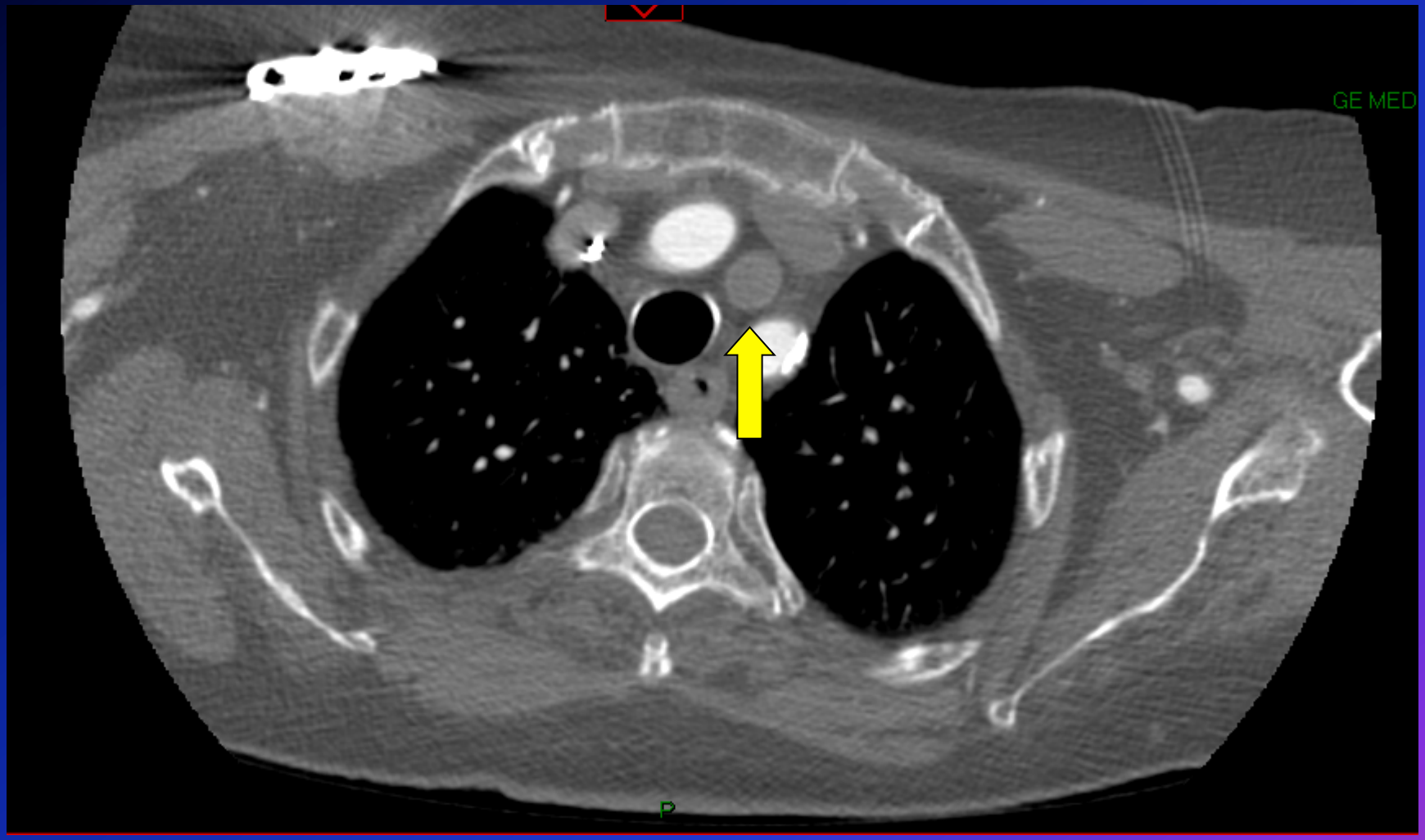
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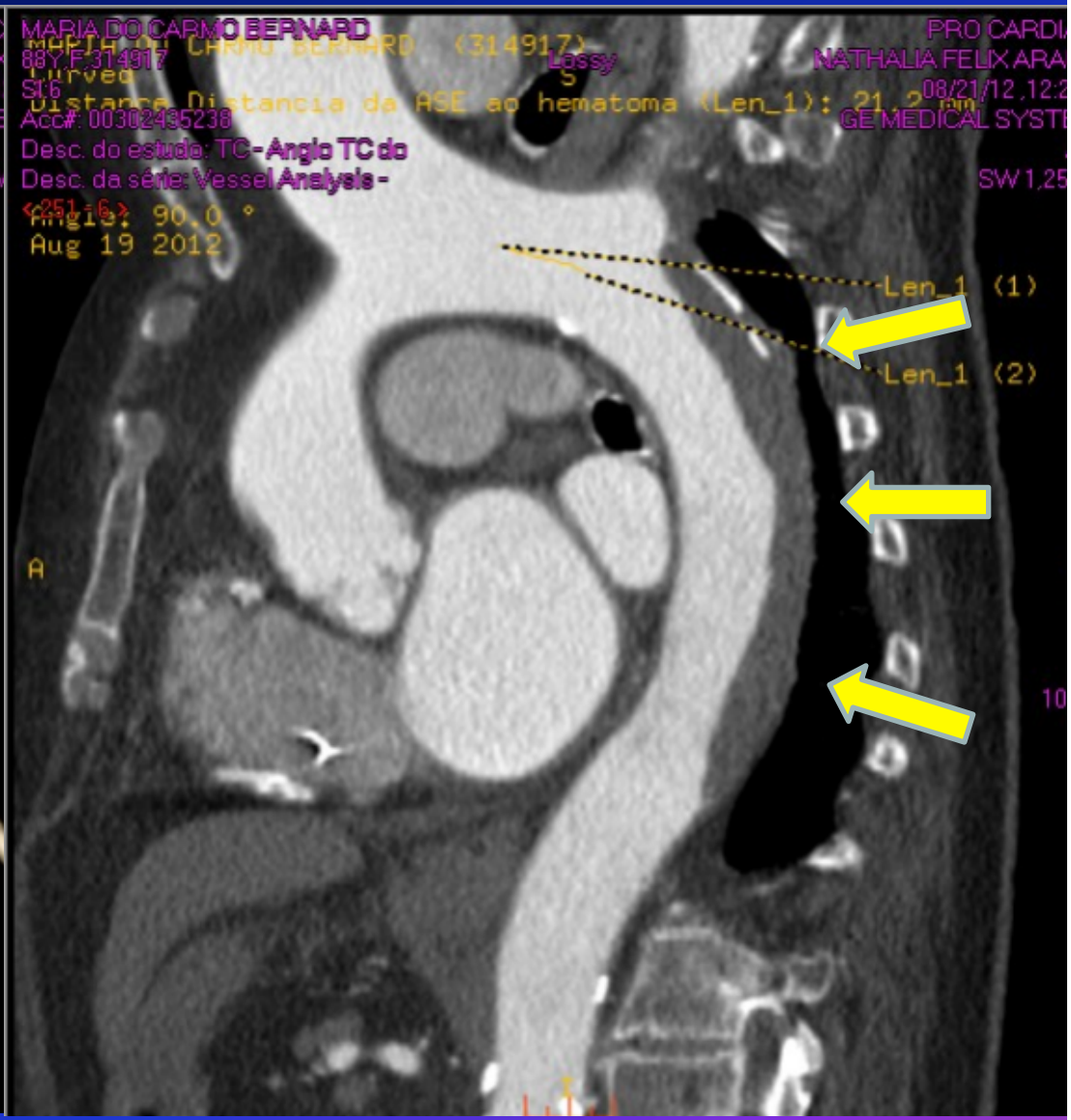
MARIA DO CARMO BERNARD
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Distance Distancia da ASE ao hematoma (Len_1): 21,2 mm
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Angle: 90,0 °
Aug 19 2012
Len_1 (1)
Len_1 (2)
A

CASE I

48h after admission:

Embolization to the right hallux despite anticoagulation – Cyanotic and very painful lesion ("Blue Toe Syndrome").

Can J Surg, Vol. 50, No. 5, October 2007

Mural aortic thrombi: An important cause of peripheral embolization

P.U. Reber, MD, A.G. Patel, FRCS, E. Stauffer, MD, M.F. Müller, MD, D.D. Do, MD, and H.W. Kniemeyer, MD, *Bern, Switzerland*

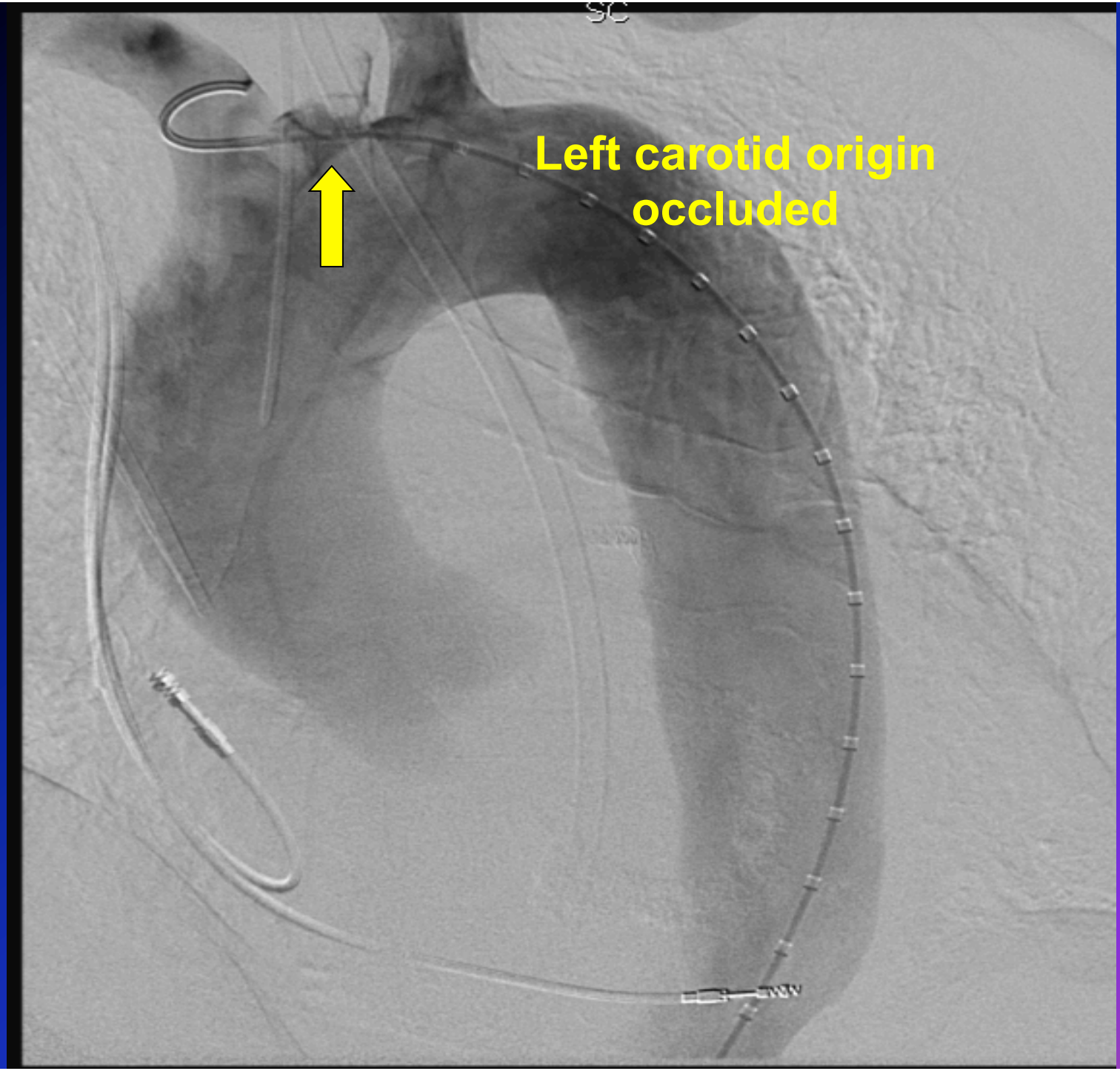
Arterial thromboembolism in patients with an unknown source of embolization is still associated with significant morbidity and mortality. The advent of transesophageal echocardiography (TEE) and magnetic resonance imaging (MRI) and the more frequent use of computed tomography (CT) have led to the identification of mural aortic thrombi (MAT) as a source of distal embolization in a much higher proportion of patients than previously appreciated. The incidence, diagnosis, and treatment of patients with MAT is reported.

In a prospective study, from January 1996 to December 1998, 89 patients with acute embolic events underwent an extensive diagnostic workup, consisting of TEE, CT, or MRI, to detect the source of embolization. Patients in whom the heart (n = 51), occlusive aortoiliac disease (n = 16), or aortic aneurysms (n = 12) was identified as the source of embolization were excluded.

Five female and three male patients, with a median age of 63 years (range, 35 to 76 years), with bilateral or repetitive embolic events resulting from MAT were identified, representing 9% of all patients with arterial thrombembolism. All patients had several risk factors for atherosclerosis, but only one young patient had a single risk factor

CASO I


SC
21/08/2012


Left carotid origin
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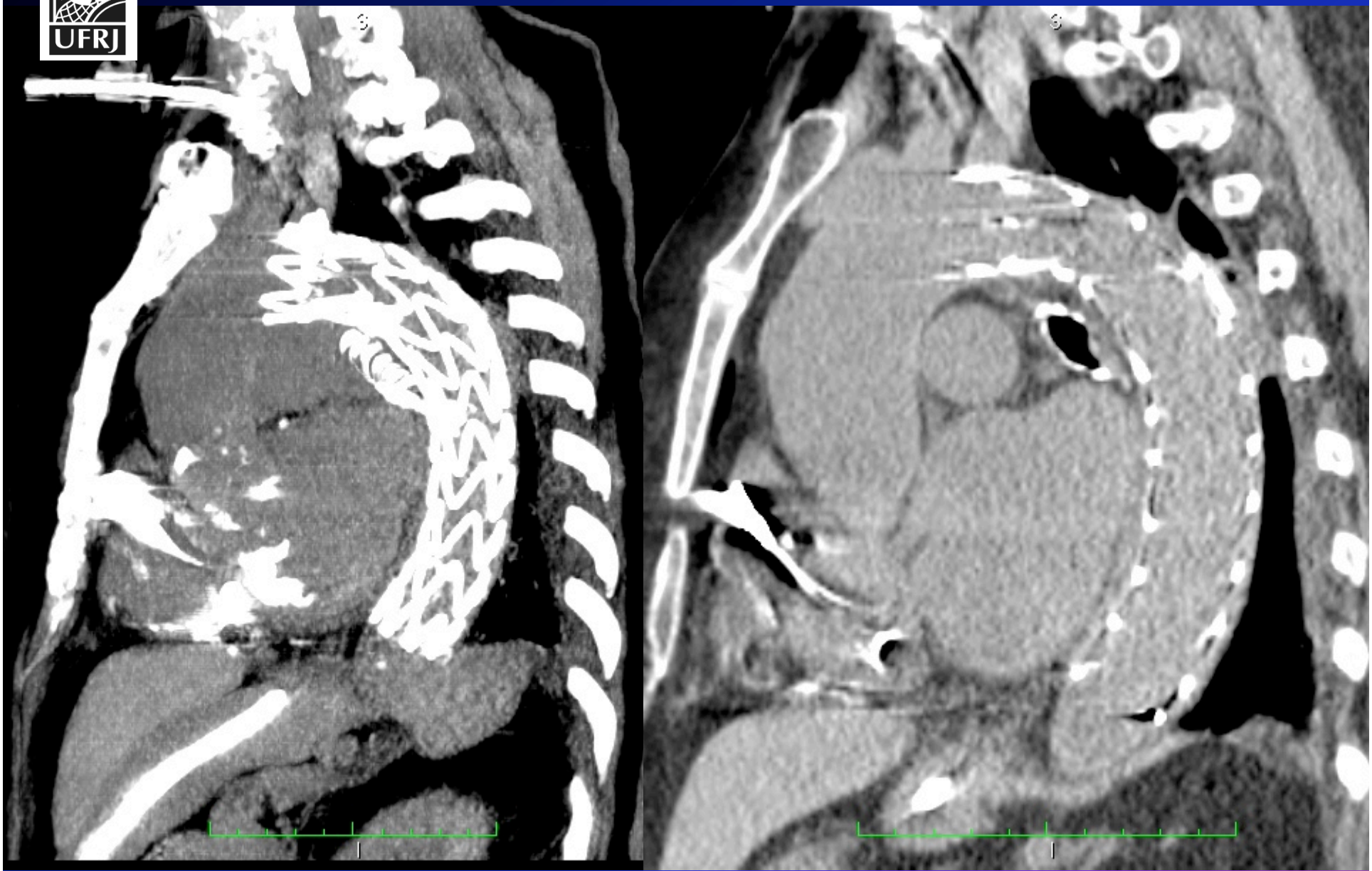
CASE I



CASO I

Favorable evolution of vascular standpoint.

Fluctuating neurological clinical picture.

-Conducted various head CT was noticed without acute injury

- Disconnection Syndrome. Prefrontal syndrome

Favorable evolution - discharged 49 days

Simultaneous stent grafting of the descending thoracic aorta and aortofemoral bypass for "shaggy aorta" syndrome

Can J Surg, Vol. 50, No. 5, October 2007

Giulio Illuminati, MD; Luciano Bresadola, MD; Antonio D'Urso, MD; Gianluca Ceccanel, MD; Francesco Vietri, MD

Spontaneous peripheral and visceral embolization from diffuse, aortic atherosclerotic disease is unusual. It is due to multiple, ulcerated, atherosclerotic plaques, which are lined with thrombus of the thoracoabdominal aorta, and is associated with an irregularly spiculated shape of the aortic wall at angiography and CT, known as the "shaggy aorta" syndrome.[1,2]

Case report

A 65-year-old man was referred for bilateral, painful cyanosis of the toes, of sudden onset. He was taking warfarin for a previous aortic and mitral valve replacement and aortocoronary bypass grafting 2 years earlier. On physical examination, "blue toe" syndrome, with normal pedal pulses, was evident bilaterally.

A transesophageal echocardiogram excluded the presence of valvular or intracavitary embolism. Multislice CT showed irregular atherosclerotic plaques, lined with thrombus in the descending thoracic and infrarenal aorta as well as in the iliac arteries, without significant stenoses (Fig. 1). Because the visceral aorta, from the celiac trunk to 2 cm below the renal arteries, was free of disease, we decided to exclude the thrombus in the descending thoracic aorta with a stent graft and to perform a standard, excluding aortobifemoral bypass. The stent graft (Zenith Endovascular Graft; Cook Group Inc., Bloomington, Ind.) was first inserted through the left common femoral artery and deployed from below the left subclavian artery to the diaphragm. Then a standard, Dacron, aortobifemoral bypass graft, originating 1 cm below the renal arteries was inserted. The common femoral arteries were both ligated immediately above the distal anastomoses of the graft. A postoperative CT scan showed satisfactory exclusion of the diseased aorta (Fig. 2).

The patient's pain resolved and the pedal lesions healed. He was discharged home with a prescription for oral warfarin. At 26-month follow-up, he was well and had had no further embolic episodes.

Discussion

Diffuse atheromatous embolization from aortic atherosclerotic disease is a poorly understood disorder. Many patients showing diffuse multiple thrombus lining along the aortic wall on CT and angiography never experience embolic episodes. "Shaggy aorta" syndrome is associated

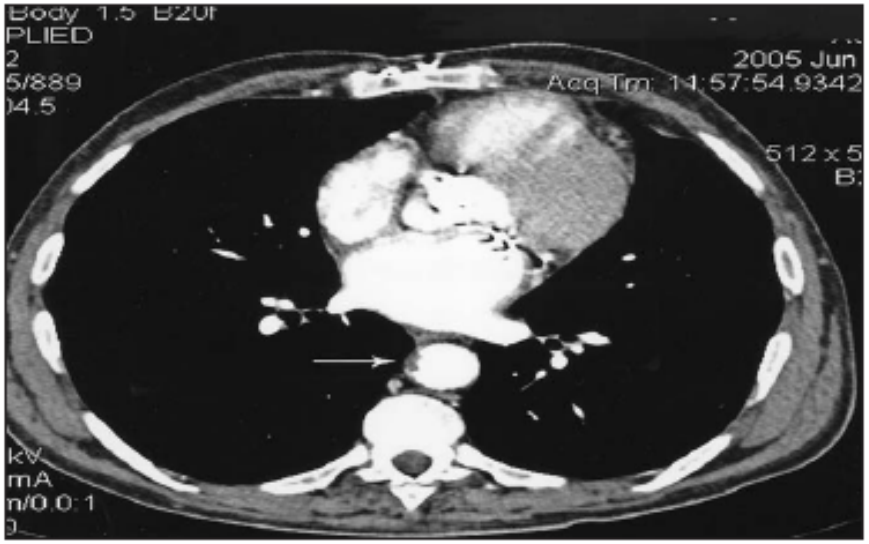
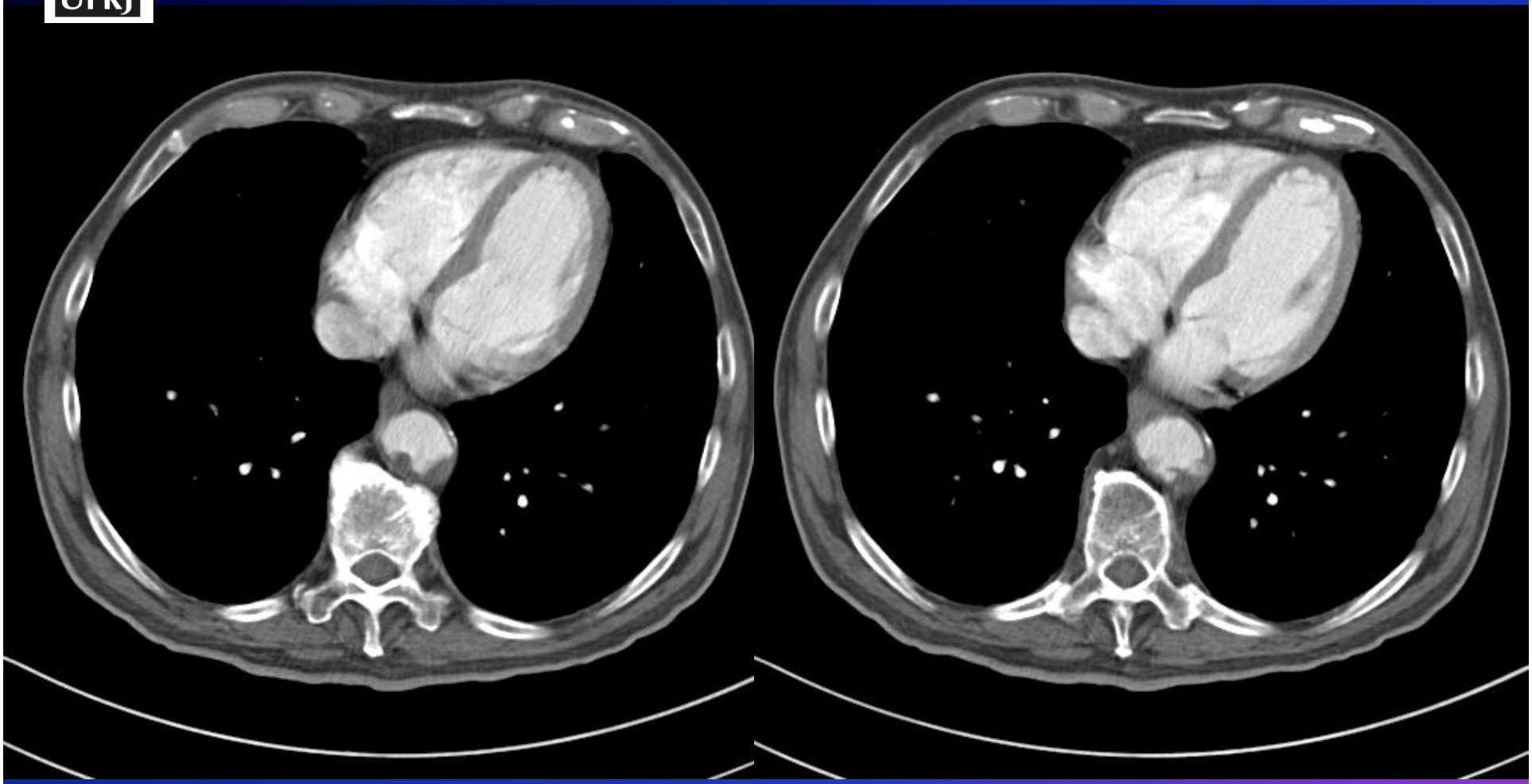
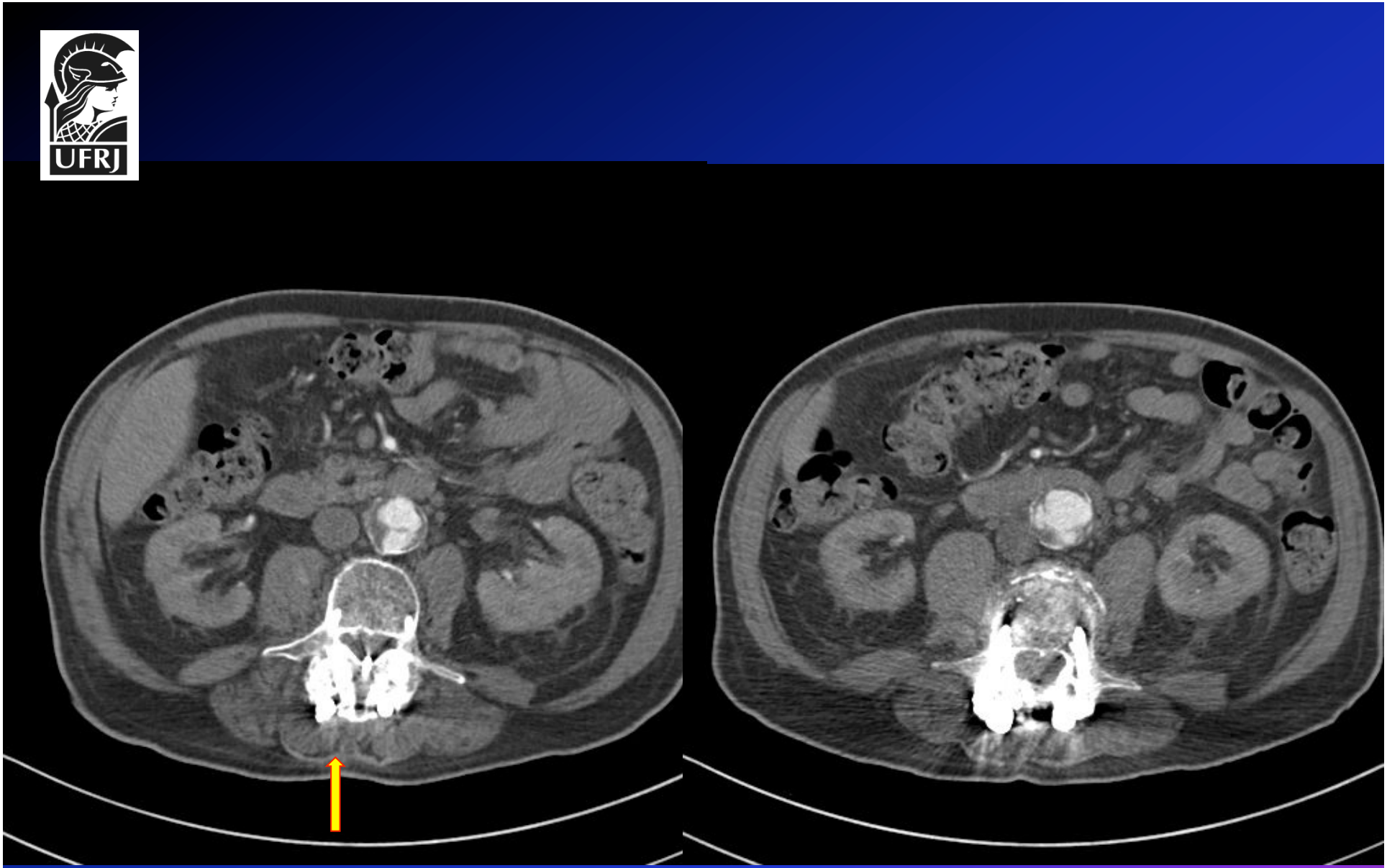
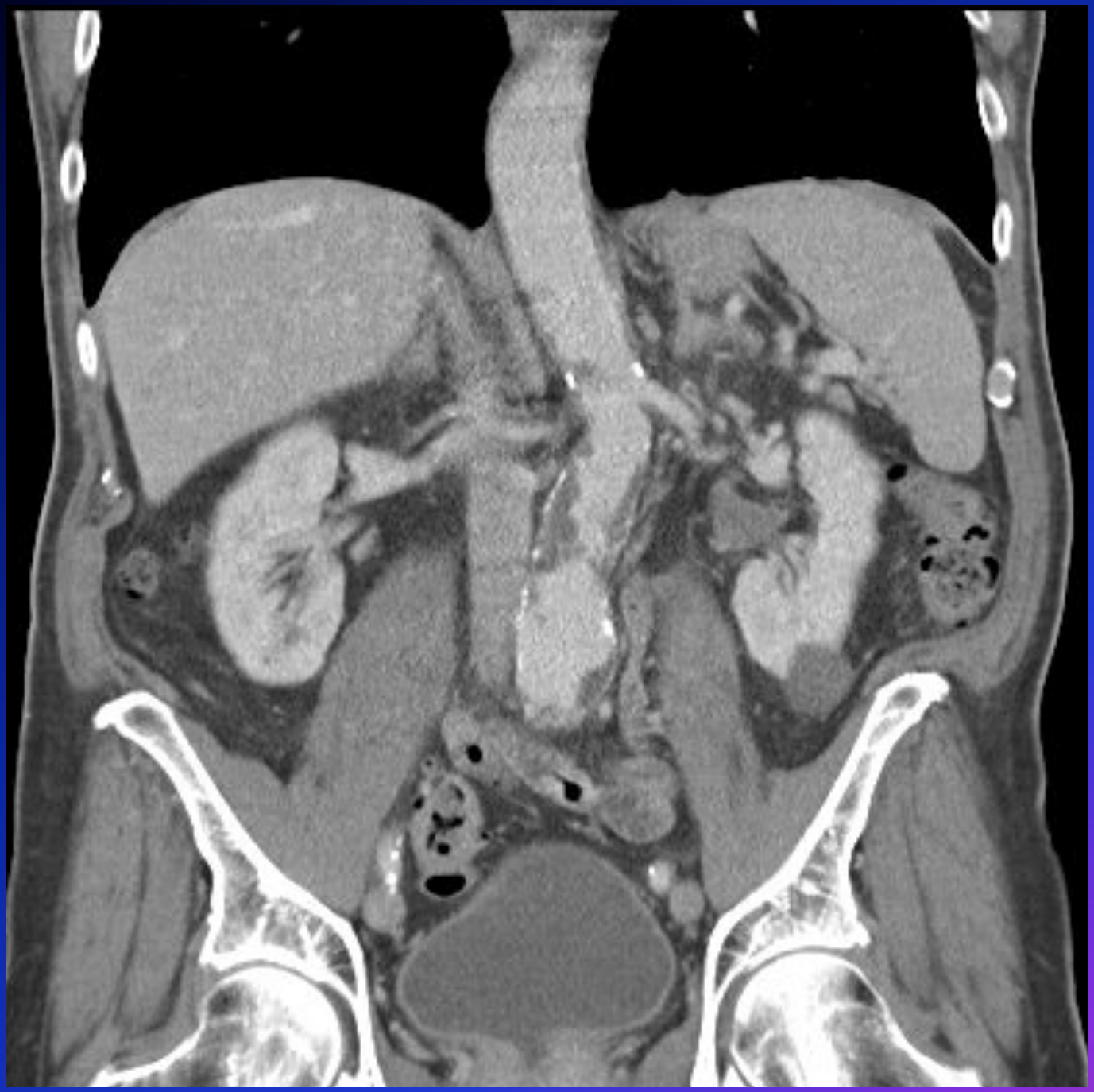


FIG. 1. Multislice CT scan of the thoracoabdominal aorta. The descending thoracic aorta ulcers of the intimal surface are lined with irregular and unstable thrombus.

CASE II







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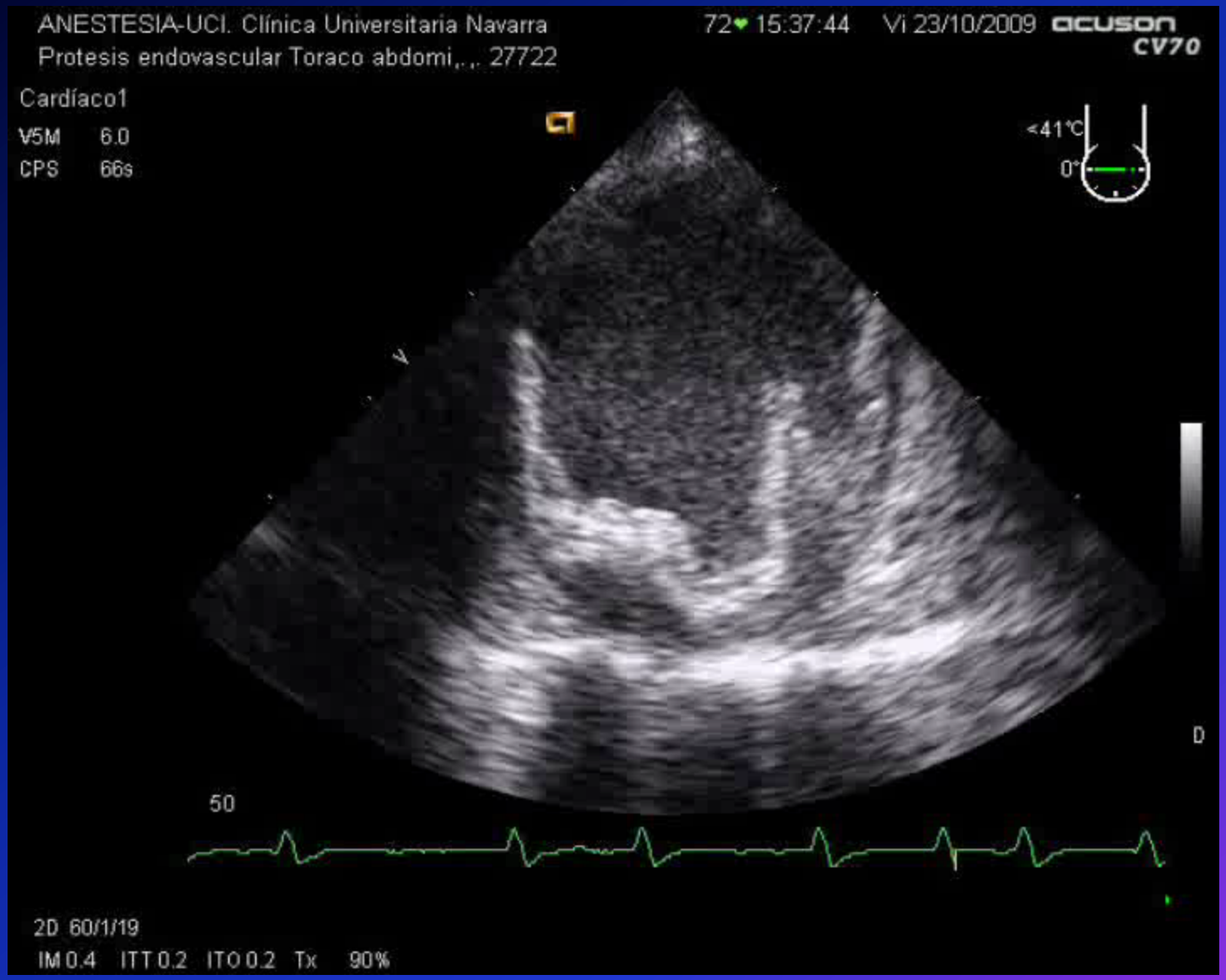
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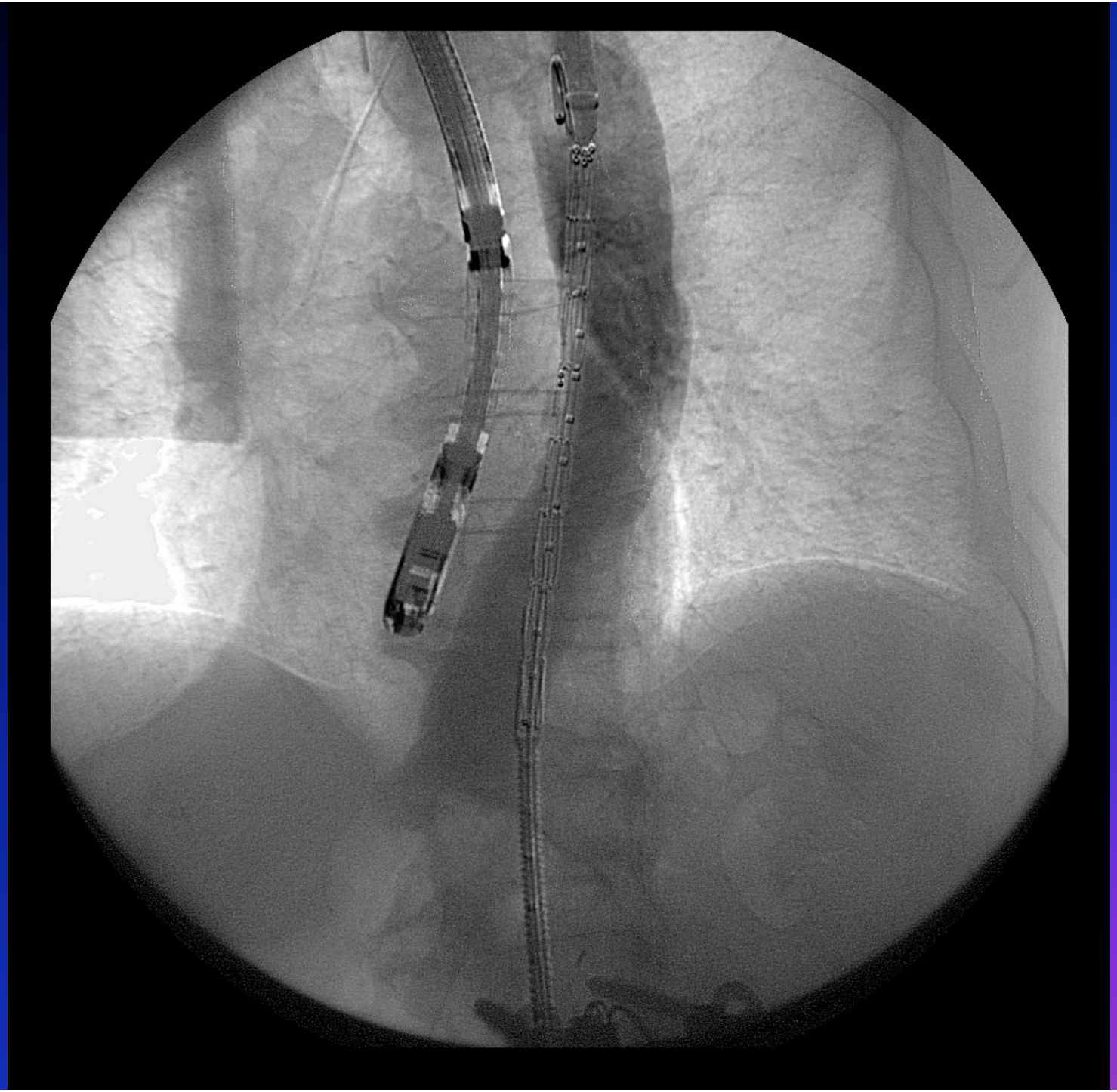

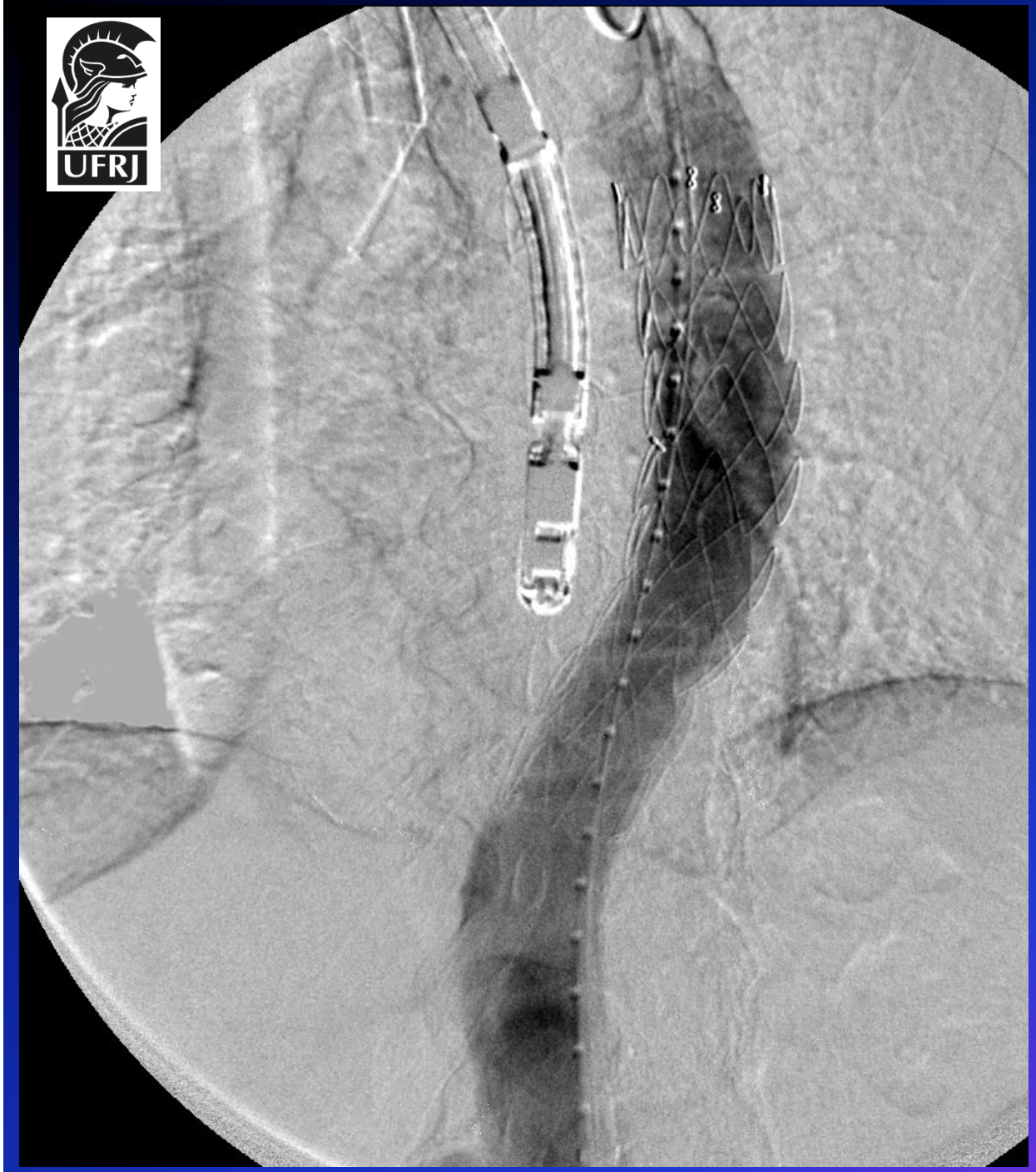


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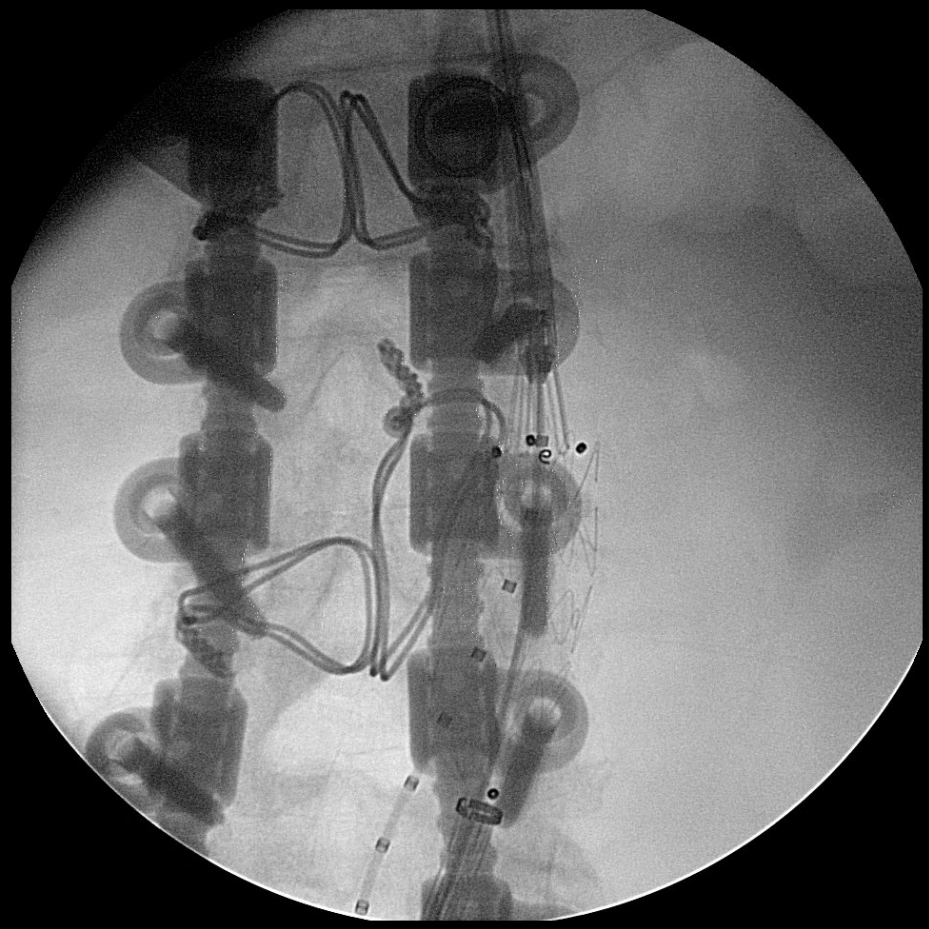

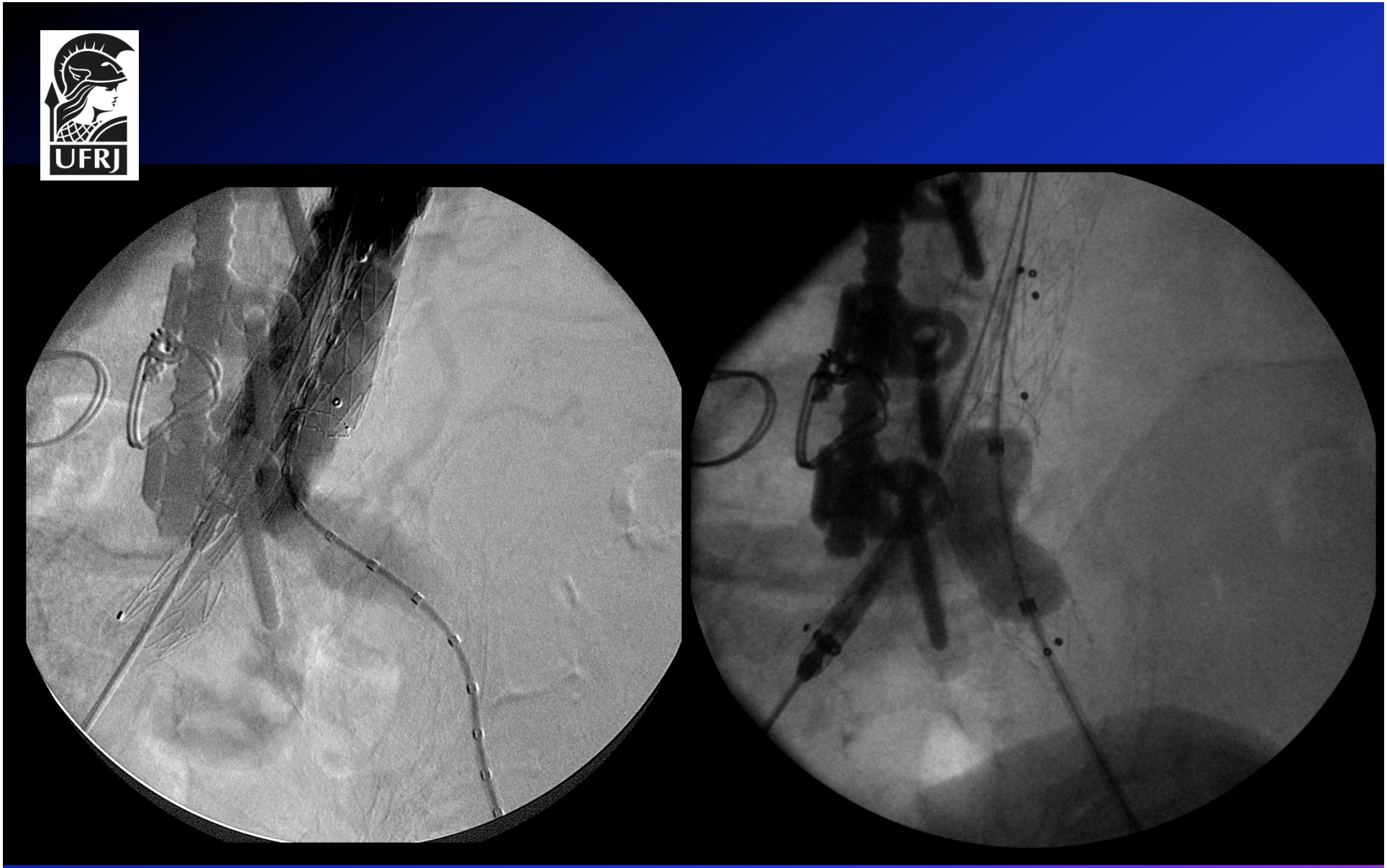

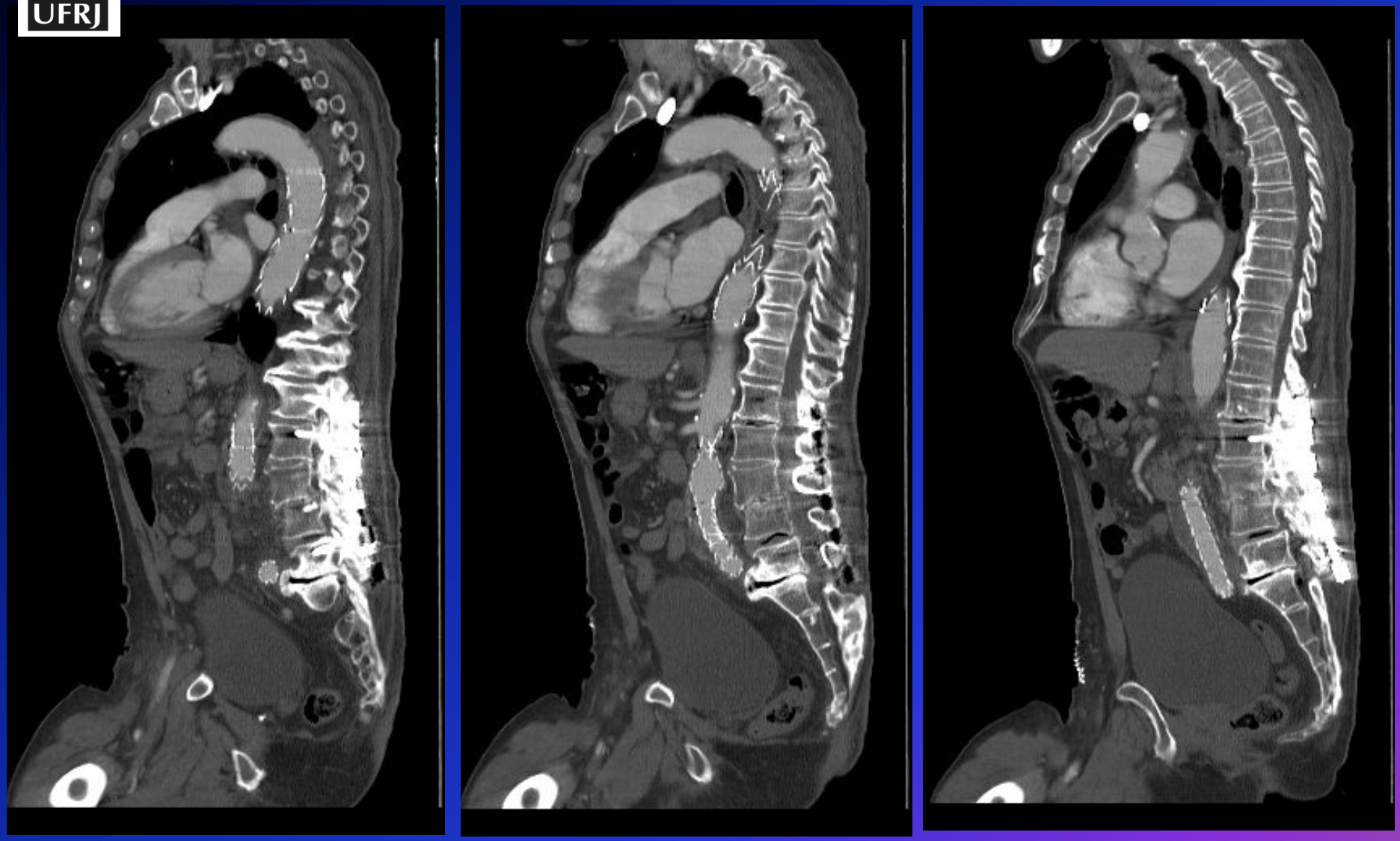

CONCLUSION

- Mural aortic thrombi is an uncommon cause of distal embolization.
- The stent grafting of the aorta allowed complete exclusion of all embolic sources and permits safe resumption of oral anticoagulation.
- Long-term follow-up will be necessary to assess the durability of this technique.