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Thrombosis of the Porta and Superior Mesenteric Vein Secondary to Antiphospholipidic Syndrome: Case Report

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Abstract **Case Report**

Introduction: Thrombosis of the mesenteric portal vein is a rare complication of non-specific symptomatology and difficult diagnosis. ***Clinical Case***: Male patient 57 years of age with no clinical history of importance, surgical cholecystectomy, lumbar laminectomy, gastric fundoplication, attended gastroenterology consultation for continuous colicky abdominal pain of 22 days of evolution, in paraclinics without report of leukocytosis with slight neutrophilia, COPRO + negative PMN, negative emo, normal coagulation times, CT S / C of the abdomen and pelvis which reports acute thrombosis of the portal vein and superior mesenteric vein. Wells score (0 points), Improve score (1 point: age 58 years), for which LMWH adjusted to the patient's weight plus mechanical measures were prescribed. ***Clinical Discussion:*** Contrast abdominal tomography plays an important role in the diagnosis. ***Conclusion***: Thrombosis of the portal vein and mesenteric vein should be considered as a serious complication, with early diagnosis and anticoagulant therapy, the patient's clinical symptoms may improve rapidly.

Keywords: Thrombosis. Porta vein. Superior mesenteric vein. Abdominal pain.

INTRODUCTION

Portal venous thrombosis (DVT) is the obstruction of venous flow into the portal system, not associated with liver cirrhosis or tumor disease, and is the second leading cause of portal hypertension in the Western world. In up to 60% of cases it is possible to identify an underlying systemic prothrombotic disorder as the etiological factor [1]. Local factors are responsible for one third of cases, and the coexistence of several entities is not uncommon. Therefore, in these patients, etiologic diagnosis is of vital importance. The initiation of early anticoagulation in the acute phase of portal venous thrombosis (DVT) will have a significant impact on the probability of recanalization and, therefore, on the prognosis of these patients. In the chronic phase of DVT (or portal cavernomatosis), symptomatology and morbidity are given by the complications of portal hypertension developed [2].

CLINICAL CASE

Male patient 57 years of age with no important clinical history, surgical cholecystectomy, lumbar laminectomy, gastric fundoplication, attended gastroenterology consultation for continuous colicky abdominal pain of 22 days of evolution, which today increases 9/10 on the VAS scale, accompanied by a diarrheal stool. In paraclinical tests without report of leukocytosis with slight neutrophilia, COPRO + negative PMN, negative emo, normal coagulation times, CT S / C of the abdomen and pelvis which reports: At the level of the portal vein measuring approximately 13 mm where a hypodense, intraluminal repletion defect is observed, extending towards the superior mesenteric vein, showing a trajectory of approximately 2.3 cm up to near the bifurcation, associated with alteration of the surrounding mesenteric fat, and prominent mesenteric vessels with a diagnostic impression; Acute thrombosis of the portal vein and superior mesenteric vein.

Wells score (0 points), Improve score (1 point: age 58 years), for which LMWH adjusted to the patient's weight plus mechanical measures are prescribed.

On physical examination, the abdomen is soft, depressible, superficial hypersensitivity, pain on superficial palpation, it looks like peritoneal defense in diffuse abdomen, diminished hydroaerial sounds. For further studies is performed, Angiotac of the abdomen.

Figure 1: Hypodense image compatible with thrombus in the portal vein and superior mesenteric vein

Reports: portal vein and superior mesenteric vein thrombosis with signs of cavernomatosis in relation to subacute-chronic process. right cortical renal cyst. Abdominal X-ray: no intestinal gas is observed, initial D-dimer control: 1638 after 10 days 940, so we can indirectly establish that the thrombotic load is lower.

Genetic and immunological studies of hypercoagulability syndrome were performed, indicating FAS in accordance with the application of positive Sapporo criteria for antiphospholipid syndrome, for which an immunomodulator based on plaquinol and prednisone was administered.

RESULTS AND FOLLOW-UP

It is recommended to maintain controls every 72 hours of intestinal venous network flow by portal/mesenteric Doppler ultrasound [3].

Echo Doppler is performed: portal vein measures between 6 and 9.5 mm; it presents hepatopetal flow, without undulations with respiratory movements, continuous monophasic with systolic velocity 15 cm/sec. hepatic artery with usual spectrum, systolic velocity of 51.50 cm/sec (normal 30 to 60). ir 0.64 phasic splenic vein with systolic velocity 15 cm/sec. suprahepatic veins with hepatofugo, with diameter between 5 and 7mm.

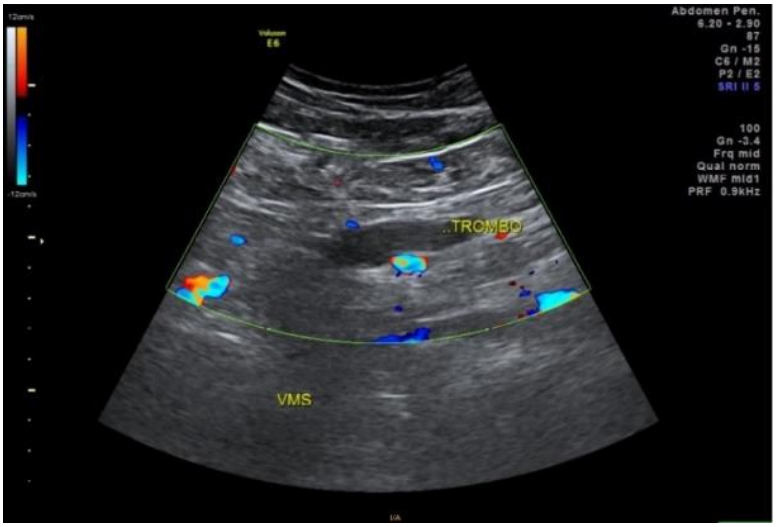

Figure 2: Abdominal Doppler ultrasound, hypoechogenic image compatible with portal vein thrombus

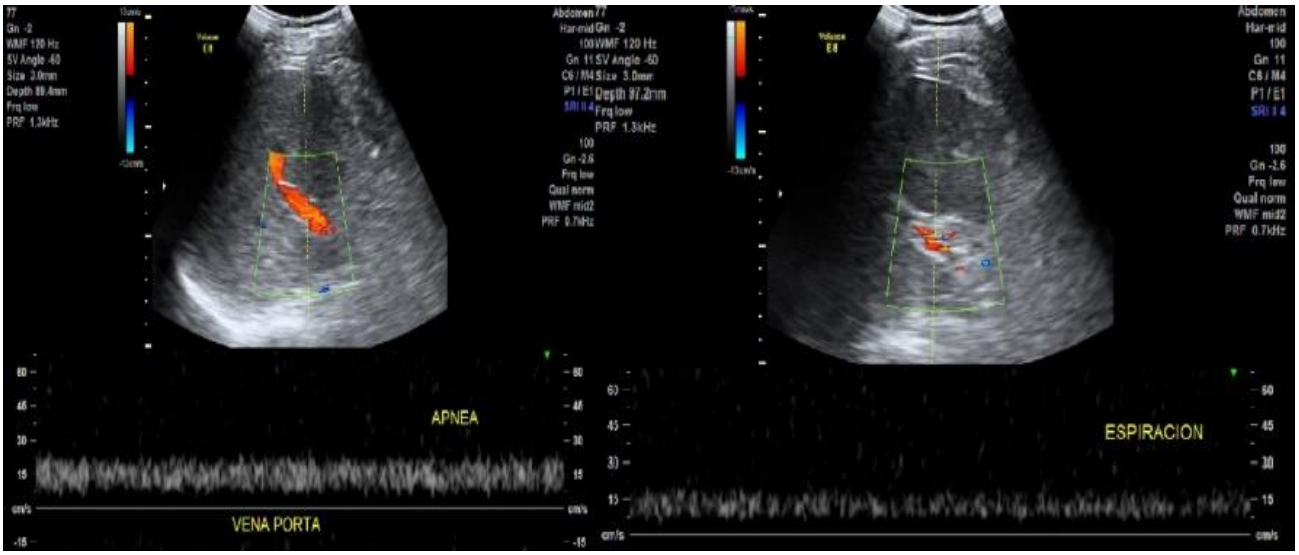

Figure 3: Abdominal Doppler ultrasound negative for portal hypertension

Conclusion: negative study for portal hypertension. continuous monophasic portal vein flow.

Patient with favorable evolution 72 hours before discharge, Warfarin switch is started; enoxaparin 80 mg SC BID + warfarin 5 mg.

DISCUSSION

Portal venous thrombosis (DVT) is the obstruction of venous flow to the portal system [4], not associated with liver cirrhosis or tumor disease is the second leading cause of portal hypertension in the Western world and primary mesenteric venous thrombosis is considered spontaneous and idiopathic, while secondary mesenteric venous thrombosis is due to an underlying condition [3].

Within the etiology, prothrombotic states (factor V Leiden mutation, resistance to protein C, S, thrombophilia, use of oral contraceptives) and primary hypercoagulability states are the most frequent causes of secondary mesenteric venous thrombosis and portal thrombosis. Specific hypercoagulability states are identified in 60 to 75% of patients with mesenteric venous thrombosis [5].

A patient with acute mesenteric venous thrombosis presents with a sudden onset of nonspecific symptoms, including abdominal pain, nausea, and vomiting. Abdominal pain is usually the dominant symptom, with severe pain in the mid-abdomen [6]. Other abdominal signs such as pain on palpation, distention and ascites may occur. If left untreated, abdominal pain will worsen as peritonitis develops. This indicates intestinal infarction, which is seen in one to two-thirds of patients with mesenteric venous thrombosis. Unlike arterial ischemia, the evolution from normal to ischemic bowel is gradual in mesenteric venous thrombosis, experiencing symptoms over days to weeks. The average duration of symptoms varies from 6 to 14 days [7].

Patients with chronic MVT are often asymptomatic with a diagnosis of mesenteric venous thrombosis resulting from incidental findings or portal hypertension [7]. Conservative management of acute MVT is feasible when the initial diagnosis with a CT scan is certain and when bowel infarction has not led to transmural necrosis and bowel perforation. Morbidity, mortality and survival rates are similar in surgically and conservatively managed cases [8]. The length of hospital stay is shorter when patients are treated with a non-surgical approach [9].

In symptomatic patients who do not respond to systemic anticoagulation, interventional procedures have emerged as an alternative to surgery [8]. The first-line treatment is therapeutic anticoagulation, which helps prevent progression of the thrombotic process.

Anticoagulation and appropriate follow-up are less invasive and have been shown to produce better patient outcomes. Heparin should be administered as soon as the diagnosis of mesenteric or portal venous thrombosis is established [9]. Once the patient improves, invasive procedures are no longer necessary and warfarin therapy is introduced. Patients with known reversible conditions complete anticoagulation for approximately 6 months. Patients with prothrombotic states of unknown etiology continue lifelong anticoagulation to prevent intestinal infarction and avoid recurrent thrombosis in the future [8].

FORECAST

A genetic hypercoagulability disorder is a predictor of intestinal ischemia due to MVT. Regardless of treatment, outcomes after MVT are morbid. Most patients suffer from a post-thrombotic syndrome of the

abdomen with not only venous collateralization and portal hypertension on imaging, but also recurrent readmissions for abdominal pain [8].

CONCLUSION

Portal venous thrombosis and thrombosis of the mesenteric vein should have as differential diagnosis abdominal pain, although it is rare, it should be considered when abdominal pain does not correlate with physical examination findings. Mortality is high and increases with late diagnosis and prognosis is directly related to early diagnosis, imaging studies are indispensable for early treatment.

Early clinical treatment with anticoagulants is essential for a favorable evolution and hospital readmissions for abdominal pain.

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REFERENCES

1. Andraska, E., Haga, L., Reitz, K., Li, X., Ramos, R., Avgerinos, E., Singh, M., Eslami, M., Makaroun, M., & Chaer, R. (2020). Acute superior superior mesenteric venous thrombosis results in high rates of readmission and morbidity. *Journal of Vascular Surgery: Venous and Lymphatic Disorders*, *8*(5), 748-755. https://doi.org/10.1016/j.jvsv.2020.01.007.
2. Cho, J. W., Choi, J. J., Um, E., Jung, S. M., Shin, Y. C., Jung, S.-W., Kim, J. il, Choi, P. W., Heo, T. G., Lee, M. S., & Jun, H. (2018). Clinical Manifestations of Superior Mesenteric Venous Thrombosis in the Era of Computed Tomography. *Vascular Specialist International*, *34*(4), 83-87. https://doi.org/10.5758/vsi.2018.34.4.83.
3. Huber, T. S., Björck, M., Chandra, A., Clouse, W. D., Dalsing, M. C., Oderich, G. S., Smeds, M. R., & Murad, M. H. (2021). Chronic mesenteric ischemia: Clinical practice guidelines from the Society for Vascular Surgery. *Journal of Vascular Surgery*, *73*(1), 87S-115S. https://doi.org/10.1016/j.jvs.2020.10.029.
4. Lim, S., Halandras, P. M., Bechara, C., Aulivola, B., & Crisostomo, P. (2019). Contemporary Management of Acute Mesenteric Ischemia in the Endovascular Era. In *Vascular and Endovascular Surgery* (Vol. 53, Issue 1, pp. 42-50). SAGE Publications Inc. https://doi.org/10.1177/1538574418805228
5. Quarrie, R., & Stawicki, S. (2018). Portal vein thrombosis: What surgeons need to know. In *International Journal of Critical Illness and Injury Science* (Vol. 8, Issue 2, pp. 73-77). Medknow Publications. https://doi.org/10.4103/IJCIIS.IJCIIS_71_17
6. Rabuffi, P., Vagnarelli, S., Bruni, A., Antonuccio, G., & Ambrogi, C. (2020). Percutaneous Pharmaco-Mechanical Thrombectomy of Acute Symptomatic Superior Mesenteric Vein Thrombosis. *CardioVascular and Interventional Radiology*, *43*(1), 46-54. https://doi.org/10.1007/s00270-019-02354-y.
7. Sheikh-Ali, R., Moore, J., Almerey, T., Toskich, B., Robertson, M. W., Dinh, T. A., & Farres, H. (2019). Complex management of acute superior superior mesenteric venous thrombosis in the setting of metastatic ovarian cancer. *Gynecologic Oncology Reports*, *29*, 85-88. https://doi.org/10.1016/j.gore.2019.07.008.
8. Turon, F., Hernández-Gea, V., & García-Pagán, J. C. (2018). Portal vein thrombosis: yes or no on anticoagulation therapy. In *Current Opinion in Organ Transplantation* (Vol. 23, Issue 2, pp. 250-256). Lippincott Williams and Wilkins. https://doi.org/10.1097/MOT.0000000000000506.
9. Wolter, K., Decker, G., Kuetting, D., Trebicka, J., Manekeller, S., Meyer, C., Schild, H., & Thomas, D. (2018). Interventional Treatment of Acute Portal Vein Thrombosis. *RoFo Fortschritte Auf Dem Gebiet Der Rontgenstrahlen Und Der Bildgebenden Verfahren*, *190*(8), 740-746. https://doi.org/10.1055/a-0631-9265