Case | (458) Pseudo-obstruction and atrial fibrillation
Authors | S. Fernández Gómez, P. Fernández Tejado, G. Rueda Monago, M. Relaño Mesa, R. Martínez, M. Rabelo Fernández.
Centre | Complejo Universitario De Badajoz.

CASE PRESENTATION

A 71-year-old woman patient with not anticoagulated atrial fibrillation suffers of acute abdominal pain, distention, dyspneoa and tachycardia.

An abdomino-pelvic CT with intravenous contrast was performed in arterial and venous phase.

The findings were pneumoperitoneum with dilated bowel loops, thinning wall and lack of enhancement of the descendent colon with pneumatosis intestinalis and perforation with peritonitis signs.

A total occlusion of proximal inferior mesenteric artery was evident.

Signs of pneumatosis portalis with focal perfusion abnormalities and a renal infarction. The abdominal aorta showed small with collapsed inferior vena cava and bilateral adrenal gland hyperenhancement due to intestinal shock.

DISCUSSION

CT findings and the past medical history were supportive of an acute inferior mesenteric artery occlusion and intestinal ischemia is the most common diagnosis.

This disease has a mortality rate of 50-90%. The prognosis of acute mesenteric ischemia depends on the time of diagnosis and initiation of treatment. Images studies are essential for the diagnosis.

MDCT with IV bolus contrast injection with an arterial and a venous phases is the election technique with high sensitivity for diagnose it and it can also provide underlying causes, its severity and excludes alternative diagnoses. Inferior mesenteric artery supplies the colon from the splenic flexure to rectum.

In CT findings depends on the phase where we do the images study.At first we can see reversible ischemia signs with just the vessel occlusion and normal bowel appeared.

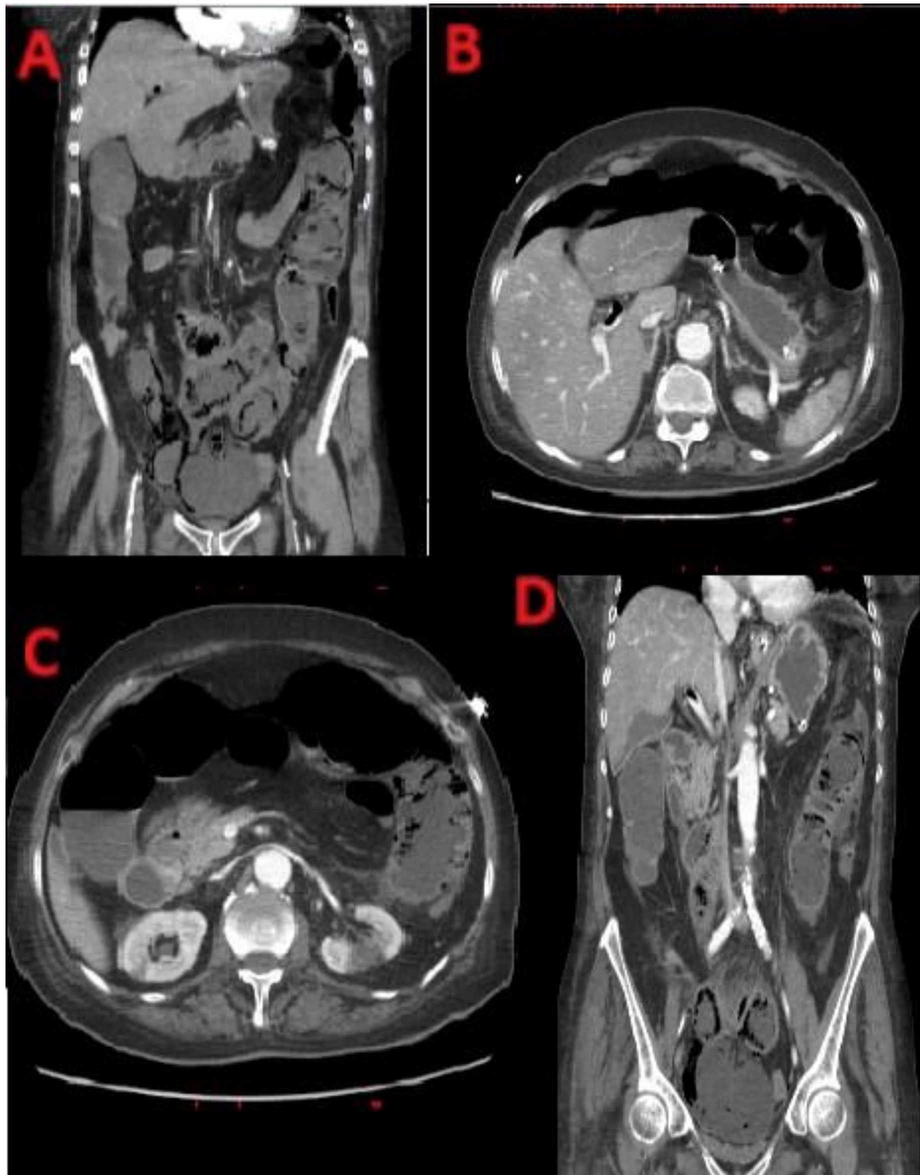
Later, we can see dilated loops and the wall becomes thinner (paper-thin wall) because there is no flow. Until this phase, if flow is restored and bowel injury is not so severe, it can recover, maybe with effect like fibrosis.

In CT the changes for the reperfusion are superpose on the initial injury, so a loops wall thickening is seen with “Target Sign” and maybe high attenuation because of haemorrhage.

Finally, irreversible ischemia occurs with the transmural infarcted bowel. CT is dressed as dilated bowel loops and lack of bowel wall enhancement. Also perforation, pneumatosis and portal-mesenteric venous gas can be seen. It's not common ascites in arterial cause.

CONCLUSION

CT finding and the medical history of not anticoagulated atrial fibrillation with the presence of an associated arterial embolism in other organs is supportive of an acute inferior mesenteric artery occlusion and intestinal ischemia.



A) Arterial CT phase. Sigmoid and descendent colon pneumatosis with fecaloid content right to the bladder
B) Portal pneumatosis and pneumoperitoneum
C) Left renal infarction and pneumoperitoneum.
D) Portal pneumatosis, paper-thin wall with lack of bowel wall enhancement.

BIBLIOGRAPHY

- Strub WM, Vagal AA, Tomsick T, Moulton JS, Johnson R, Wolf T, et al. Overnight resident preliminary interpre¬tations on CT examinations: ¿should the process continue? Emerg Radiol 2006; 13: 19–23.

- Marincek, B. Nontraumatic abdominal emergencies: acute abdominal pain: diagnostic strategies. European radiology 2002; 12(9): 2136-50.

- Furukawa, A., Kanasaki, S., Kono, N., Wakamiya, M., Tanaka, T., Takahashi, M., & Murata, K. CT diagnosis of acute mesenteric ischemia from various causes. American Journal of Roentgenology 2009; 192(2): 408-16.