



## **Mesenteric Ischemia Associated with Taeniasis in Adults: About a Case**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. Author AEB wrote the protocol and the first draft of manuscript. Authors MB and AEK are the operating surgeons. Authors MB and AEK managed the documentary research, wrote the manuscript and proposed the work for publication. All authors read and approved the final manuscript.*

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**Case Study**

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### **ABSTRACT**

Mesenteric mesenteric circulation that does not meet the metabolic requirements of the visceral organs whose severity and affected organ depend on the vessel involved and the development of collaterals. *Taenia saginata* is a zoonotic tapeworm and the parasite is transmitted from human tapeworm carriers to cattle. Their association is rarely described in the literature. We report the case of a patient admitted to the emergency room with a mesenteric infarction whose surgical exploration found tapeworms, the patient benefited from a segmental resection of small intestine with termino-terminal anastomosis and ileocolostomy.

*Keywords: Mesenteric ischemia; Taenia saginata; visceral emergency.*

### **1. INTRODUCTION**

Mesenteric ischemia is a surgical emergency often seen in the elderly that results from blood

flow in the mesenteric circulation that does not meet the metabolic requirements of the visceral organs, the severity and organ affected depending on the vessel involved and the

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development of collateral [1] and it can be arterial or venous, acute or chronic, occlusive or non-occlusive [2]. *Taenia saginata* is a zoonotic tapeworm. The parasite is transmitted from human tapeworm carriers to cattle [3]. Their association is rarely described in the literature. We report the case of a patient admitted to the emergency room with a mesenteric infarction whose surgical exploration found tapeworms, the patient benefited from a segmental resection of small intestine with termino-terminal anastomosis, and for the tapeworm she received anti-parasitic treatment.

## 2. CASE PRESENTATION

The patient was 37 years old, a chronic smoker and alcoholic, with no particular pathological antecedent, who presented with diffuse abdominal pain associated with weak rectorrhoea and bloody diarrhea. And in whom the clinical examination found a hemodynamically and respiratory stable patient with generalized abdominal defence and at the rectal examination the fingers came back blood-stained. The patient had an abdominal CT scan that showed thickening of the slender cecum with the presence of endoluminal hypodense material in the upper mesenteric artery (Fig. 1).

The blood count showed anemia with hemoglobin 8g/L, platelet count 250,000 mm<sup>3</sup>, D-dimer was not performed due to the urgency of the situation.

The patient was operated on urgently and surgical exploration showed a small bowel necrosis 30 cm from the duodeno-jejunal angle, extending 10 cm and 80 cm to the last ileal loop (Fig. 2), and during resection a tapeworm was found inside the last ileal loop (Fig. 3).

We performed a segmental bowel resection from 10 cm to 30 cm from the jejunal duodenal angle with necrotic loop with terminal anastomosis and a resection from 80 of the jejunal duodenal angle with ileo-coecal resection, and ileocolostomy. The patient was resumed at D3 for necrosis of the grellique tip, and the procedure consisted of a 10 cm segmental resection of small bowel with ileocolostomy

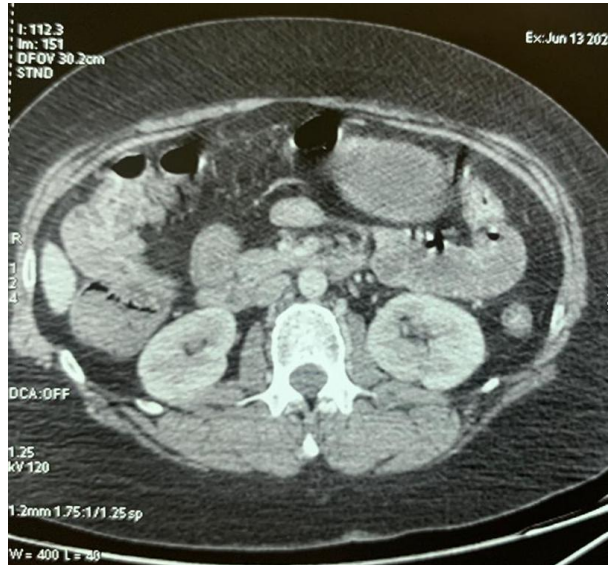
## 3. DISCUSSION

Mesenteric ischemia is an often unknown abdominal emergency and a rare cause of abdominal pain which is the consequence of an

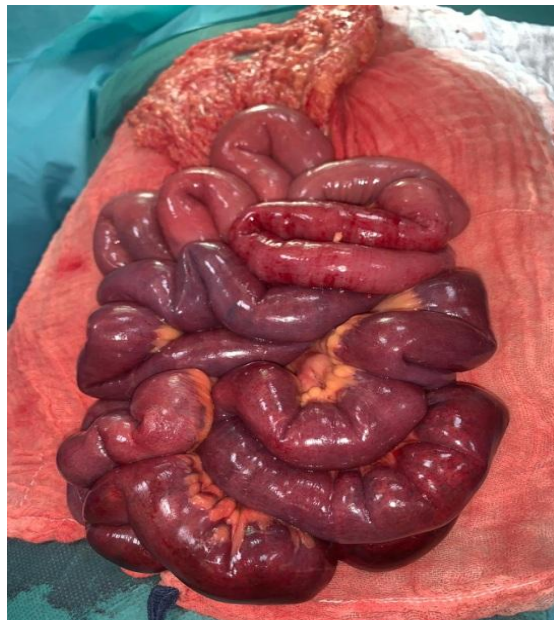
interruption or a reduction of the splanchnomesenteric blood flow [1]. It affects more frequently people over 60 years old with female predominance, classified according to the speed of the installation, and according to the degree of obstruction of the blood flow leads to an acute intestinal suffering whose venous origin represents 5 to 5 % of the cases [4]. The clinical picture often manifests itself by abdominal pains of brutal installation, of increasing intensity, almost constant, of initial periumbilical then diffuse seat, sometimes accompanied by nausea, vomiting, diarrhoea and frequently of a digestive haemorrhage [5]. If an artery is involved, the phenomenon is similar to that of vascular accidents according to two mechanisms: either a clot (thrombus) migrates from the heart and embolises the digestive arteries (embolism), or an atheromatous plaque (calcifications, cholesterol plaque in the lumen of the artery) gradually slows down arterial blood flow until it causes an acute thrombosis of atheromatous plaque [6]. Usual cardiovascular risk factors (obesity, smoking, diabetes, excess cholesterol, hypertension), a history of heart disease or cardiac risk factors (heart valve disease, arrhythmia, myocardial infarction) [7]. There are no biological tests to confirm the diagnosis of mesenteric ischemia. Normal D-dimers may rule out mesenteric ischemia, but their elevation is not specific. The venous L-lactate assay may be useful in predicting the severity and prognosis of mesenteric ischemia(5). It is the test of first choice when mesenteric ischemia is suspected. The abdominal CT scan provides the best characterization of the nature and morphology of the vascular occlusion. It will also make it possible to detect an embolic source, specify the extent of the ischaemic area and highlight signs of severity such as airway or pneumoperitoneum with a specificity of- 95100 % [8]. Initial management includes adequate vascular filling by avoiding vasopressors as much as possible is indicated. Anticoagulation with unfractionated heparin should be instituted as soon as possible. Early broad-spectrum antibiotic therapy prevents bacterial translocation and resting of the gastrointestinal tract is usually indicated in acute ischemia [9]. Therapeutic management is based on the treatment of ischemia and etiology. It is multidisciplinary and consists of prevention of multivisceral failure, preservation of the non-necrotic ischemic bowel, and resection of the necrotic ischemic segments. Drug treatment will depend on the etiology selected. In the case of atheromatous lesions, anti-aggregation

combined with control of cardiovascular risk factors is indicated. In the case of cardiac embolisation or acute thrombosis in situ, anticoagulation is necessary to prevent recurrence [10]. Vital and functional prognosis depends on early multidisciplinary management. Taenia saginata is among the helminthic agents of zoonoses because their life cycle depends on humans as the only definitive host.

Their life cycle depends on the relationship between man and livestock [11]. Humans are the definitive host of *T. saginata*, and are responsible for the spread of the eggs in the environment [12]. Clinical signs may include mild diarrhoea and weight loss, and sometimes analgesia may be associated. Taeniasis can be treated with praziquantel or niclosamide [13].



**Fig. 1. CT scan showing thickening of the gullets in relation to intestinal ischemia**



**Fig. 2. Intraoperative image showing necrotic small bowel**



**Fig. 3. Intraoperative image of tapeworm tenea saginata**

#### **4. CONCLUSION**

Although mesenteric ischemia is a rare cause of abdominal pain, its rapidly poor prognosis requires early diagnosis aided by the search for contributing factors. Its association with taeniasis is rarely described in the literature and its treatment is essentially based on prevention.

#### **CONSENT**

It is not applicable.

#### **ETHICAL APPROVAL**

It is not applicable.

#### **COMPETING INTERESTS**

Authors have declared that no competing interests exist.

#### **REFERENCES**

1. Cristina Parliteanu, Mathilde Gavillet, Olivier Gié, Pierre Bize, Michel H. Maillard. Diagnosis and Treatment of Mesenteric Ischemias Rev Med Switzerland. 2016;12: 1419-1423
2. Corcos O, Nuzzo A. Gastro-intestinal vascular emergencies. Best Practice & Research Clinical Gastroenterology. 2013; 27(5):709–725.
3. Braae, Uffe Christian, Thomas Lian F, Robertson Lucy J, et al. Epidemiology of Taenia saginata taeniosis/cysticercosis: A systematic review of the distribution in the Americas. Parasites & Vectors. 2018; 11(1):1-12.
4. MG KSS, Kamath PS. Mesenteric venous thrombosis. N Engl J Med. 2001;345(23): 1683-1688.
5. Brandt Lawrence J, Feuerstadt Paul, Longstreth George F, et al. ACG clinical guideline: Epidemiology, risk factors, patterns of presentation, diagnosis, and management of Colon Ischemia (CI). American Journal of Gastroenterology. 2015;110(1):18-44.
6. Acute Mesenteric Ischemia | SNFGE.org - Société savante médicale française d'hépatogastroentérologie et d'oncologie digestive [Internet]. Available: <https://www.snfge.org/content/isc-hemie-mesenterique-aigue>
7. Aubert A, Fritsch J. Ischemic colitis: Endoscopic diagnosis. Journal de chirurgie (Paris 1908). 1997;134(3):94–96.
8. Hagspiel KD, Flors L, Hanley M, Norton PT. Computed tomography angiography and magnetic resonance angiography imaging of the mesenteric vasculature. Techniques in Vascular and Interventional Radiology. 2015;18(1):2–13.
9. Clair DG, Beach JM. Mesenteric ischemia. New England Journal of Medicine. 2016; 374(10):959–968.
10. Tripodi A, Mannucci PM. The coagulopathy of chronic liver disease. New England Journal of Medicine. 2011;365 (2):147–156.
11. Dorny P, Praet N. Taenia saginata in Europe. Vet Parasitol. 2007;149(1-2):22-4.

12. Pawlowski Z, Schultz MG. Taeniasis and Cysticercosis (Taenia saginata). In: Dawes B, editor. Advances in Parasitology [Internet]. Academic Press; 1972.
13. Taeniasis/cysticercosis [Internet]. Available: <https://www.who.int/fr/news-room/fact-sheets/detail/taeniasis-cysticercosis>

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