Clinical Case

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A Case of Gastro-Duodenal Artery Aneurism: Treatment and Complications

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Rezumat

Un caz de anevrism de arteră gastro-duodenală: tratament și complicații

Prezentăm cazul unui pacient în vârstă de 75 de ani cu anevrism de arteră gastro-duodenală (GDA) simptomatic, care a fost embolizat cu spirale pe calea arterei femurale stângi. Artera gastro-duodenală a fost apoi embolizată. Consecutiv intervenției, piciorul stâng al pacientului a devenit rece. S-a diagnosticat o ischemie subacută determinată de un efect stenotic la nivelul arterei iliace externe stângi și de fenomene embolice la nivelul membrului inferior secundare manevrării. S-a practicat trombectomie a arterelor poplitee, tibială anterioară și posterioară, peronee, cu ajutorul unui cateter Fogarty, cu rezultate pozitive. Anevrismele de arteră gastro-duodenală sunt rare. Ruptura acestora este o complicație gravă și imprevizibilă, ce complică managementul și afectează prognosticul. Deși tratamentul endovascular al anevrismelor splahnice este utilizat din ce în ce mai frecvent și oferă numeroase avantaje comparativ cu cel chirurgical, nu este lipsit de riscuri. O abordare multidisciplinară și o colaborare strânsă între chirurg și radiolog sunt recomandate.

Cuvinte cheie: anevrism, embolizare, chirurgie

Abstract

We present the case of a 75-year-old patient with asymptomatic gastro-duodenal artery aneurism (GAA) that was coiled through the left femoral artery. The gastro-duodenal artery (GDA) was then embolized. Following the intervention, the patient's left foot became cold. A sub-acute ischemia caused by a stenotic effect in the left external iliac artery and by lower limb embolic phenomena caused by the introductor, was diagnosed. A thromboembolectomy of the popliteal, anterior and posterior tibial and peroneal arteries was performed with a Fogarty catheter with good results. Aneurisms of the GDA are rare. Rupture is a severe and unpredictable complication that complicates management and darkens prognosis. Though endovascular treatment for splanchnic aneurisms are used more and more often and offers numerous advantages compared to surgery, it is not without risk. A multidisciplinary approach with careful collaboration between the surgeon and the radiologist is recommended.

Abbreviattions: GAA: gastro-duodenal artery aneurism, GDA: gastro-duodenal artery

Key words: aneurism, embolization, surgery

Introduction

Gastro-duodenal artery aneurisms (GAA) represent less than 1.5% of all splanchnic artery aneurisms. (1) GAAs usually occur in an inflammatory context, often pancreatitis. (3) There are multiple clinical pictures: hemorrhage, a pulsating mass, pain, compression of neighboring structures. GAA

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rupture is dramatic and constitutes the first symptom in 50 to 60% of cases. (4)

It is advisable for treatment to be initiated as soon as a diagnosis of GAAis made. (2) Endovascular treatment is frequently mentioned in the literature, and although it offers numerous advantages compared to surgical treatment, it is not without risk.

Case report

The patient was a 75 year old female smoker, with a history of hypertension, hyperlipidemia and pancreatitis, with a GAA discovered by chance in 2013. She was admitted to the ER for abdominal pain in January 2015, in stable condition, without any external signs of GI tract bleeding. Lab results showed cholestasis as well as anemia. A 7x15 mm GAA (increased in size since 2013) compressing the common bile duct as well as the gall bladder was visible on the abdominal CT scan. An oesophago-gastro-duodénoscopy was performed, showing evidence of erosive antritis without any signs of active bleeding. The condition of the patient worsened and a second CT scan showed an increase in the diameter of the GAA (Fig. 1 and 2). The patient was therefore transferred to a reference center for embolization. The procedure was performed under local

Figure 1 and 2. *CT scan showing an increase in the diameter of the GAA*

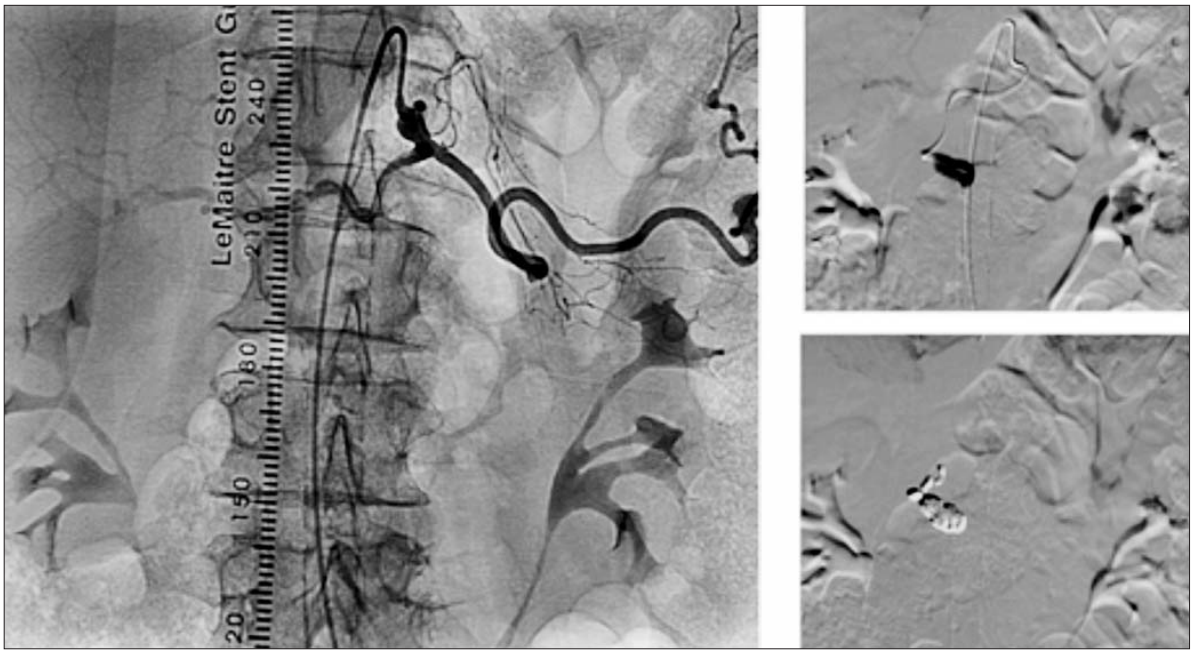

Figure 3. *Embolization of the GDA - final result*

anesthesia through the left common femoral artery, after a failed attempt through the right common femoral artery due to chronic atheromatous occlusion of the right external iliac artery. Selective catheterization of the coeliac trunk, that was severely stenosed, was performed, then the descending branch of the gastro-duodenal artery (GDA) was also catheterized. Injection confirmed the existence of a 20x10 mm aneurism that was coiled. The GDA was then embolized over approximately 20 mm (Fig 3). An angiography showed a lack of any significant bloodflow. The introductor was left in place in case ischemia following the GDA embolization would occur, as the GDA acted as a collateral in the context of the sub occluded coeliac trunk. A post embolization CT scan showed the persistence of intra hepatic bile duct dilation and hydrops of the gall bladder, probably caused by extrinsic compression by the coils. Cholestasis decreased over the following days. At 48 hours post intervention, the patient's left foot became cold, with hypoesthesia of the tows and of the lateral side of the food. A subacute ischemic phenomenon, caused by a stenotic effect in the left external iliac artery and by lower limb embolic phenomena caused by the introductor, was diagnosed. Thrombolysis being counter indicated after the aneurism embolization, a thromboembolectomy of the popliteal, anterior and posterior tibial and peroneal arteries was performed with a Fogarty catheter, under general anesthesia and with good results.

Discussion

Evolution of diagnostic and interventional technics has changed the management of GAAs. Abdominal CT angiography is an excellent diagnostic tool. (4,5) Arteriography, formerly very popular, is coming back into use both for diagnosis and treatment. The choice of surgical versus minimally invasive treatment must be discussed on a case by case basis. For unstable patients with signs of intraperitoneal bleeding, urgent surgical exploration is advisable. Mortality remains high because of the complexity of the retro duodenal and retro pancreatic anatomy.

Endovascular treatment is appropriate in cases of incidental finding, or in cases of ruptured aneurysm wherethe patient remains stable. (6) Embolization has several advantages: it can be performed under local anesthesia and the length of hospital stay is decreased. However, the case presented here illustrates that endovascular treatment is not without risk.

Conclusion

Aneurisms of the GDA are rare. Rupture is a severe and unpredictable complication that complicates management and darkens prognosis. Embolization techniques for splanchnic aneurisms are used more and more often, with good short and medium term results, and with significantly shortened hospital stay.

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