Gastroenterology International
Volume 2 Number 1-2, January - December 2017

# A Case of Spontaneous Celiac Artery Dissection with Unusual Presentation

**Bohra Shravan G.[1], Shah Apurva S.[1]**

**Author Affiliation:** [1]Consultant, Gastroenterology (Medical), Apollo Hospital International Limited, Gandhinagar, Gujarat, India.

**Reprint Request: Dr shravan Bohra,** Apolllo Hospitals Internationals Ltd, BHAT-GIDC Estate, Gandhinagar- 382428 Gujarat, India.
E-mail: sgbohra@gmail.com

**Abstract**

Spontaneous dissection of celiac trunk is quiet an uncommon medical condition, with less than forty case reports in the medical literature. Due to rarity of this disease in clinical practice and non-specific nature of symptoms, a high degree of clinical suspicion is needed. Epigastric pain is most common presenting symptom. Symptomatic spontaneous celiac artery dissection is a rare condition that is being detected more often with the use of advanced imaging techniques. The ideal treatment has not yet been established but the available strategies are conservative medical management, endovascular intervention or surgical revascularization. We describe the case of 55 year old man who presented with severe upper abdominal pain , dynamic small bowel obstruction and diagnosed as spontaneous celiac artery dissection on imaging , confirmed on angiography. We provide a review of the current literature about imaging finding and management of this rare entity.

**Keywords:** Celiac Artery; Bowel Obstruction; Angiography.

## Introduction

Isolated spontaneous celiac artery dissection is rare. Most reported cases have occurred in men, and the cause and natural history of the condition are not well understood. Epigastric pain is most common presenting symptom. Symptomatic spontaneous celiac artery dissection is a rare condition that is being detected more often with the use of advanced imaging techniques. The ideal treatment has not yet been established but the available strategies are conservative medical management, endovascular intervention or surgical revascularization.

## Case Report

A 55 year old previously healthy man had diffuse upper abdominal pain, three days prior to presentation, which was non radiating and intermittent, intensity ranging from moderate to severe. The patient also had bilious vomiting with abdominal distension and constipation one day prior to presentation. He denied history of trauma, fever, rigors, bright red blood per rectum or melena. Patient had no history of any significant medical or surgical conditions in the past including diabetes and hypertension or heart disease.

On physical examination, his vital parameters were normal with a blood pressure of 130/70 mm Hg and heart rate of 88 bpm. There was mild upper abdominal distension with mild tenderness in epigastric region and reduced bowel sounds without guarding or rigidity. Patient was managed with nasogastric aspiration, analgesics and intravenous fluids for suspected dynamic small bowel obstruction. Complete blood count, blood sugar,renal function tests, liver function tests, electrolytes, ESR, CRP, amylase and lipase, were within normal limits. LDH, HbA1c and lipid profile were also within normal limits. Electrocardiogram and chest x ray was normal.

A helical CT scan of the abdomen and pelvis with IV contrast was performed which showed a three cm long segment of dissection of celiac artery about 6mm from its origin from aorta with possible pseudo aneurysm in distal artery, luminal narrowing and extension of dissection into the bifurcation of artery into splenic artery and common hepatic artery (Figure 1,2). The aorta, superior mesenteric artery and its branches were all normal on CT scanning. Patient underwent celiac artery angiography and showed findings similar to CT scan report. He underwent work up for vasculitis (p-ANCA, c-ANCA, ANA profile) which was negative. The patient was treated conservatively with low molecular weight heparin in the therapeutic doses and supportive treatment. His symptoms improved within two days, he was symptom free five days after hospitalization and discharged in stable condition on oral anticoagulation medications with a target INR of 2.5. He was completely symptom free on outpatients follow up after a month with normal quality of life.

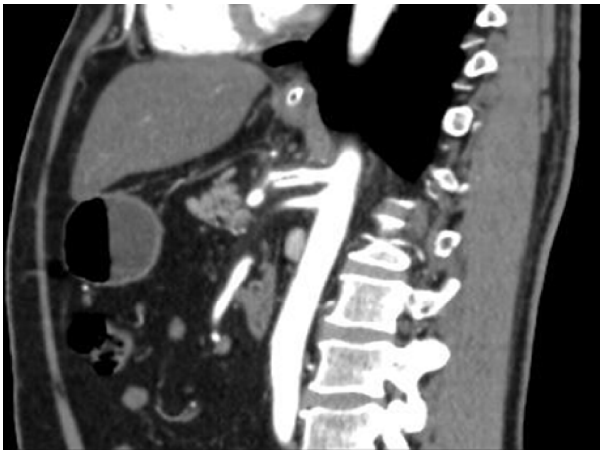

**Fig. 1:** Dissection of celiac artery about 6mm from its origin from aorta on CT abdomen with contrast

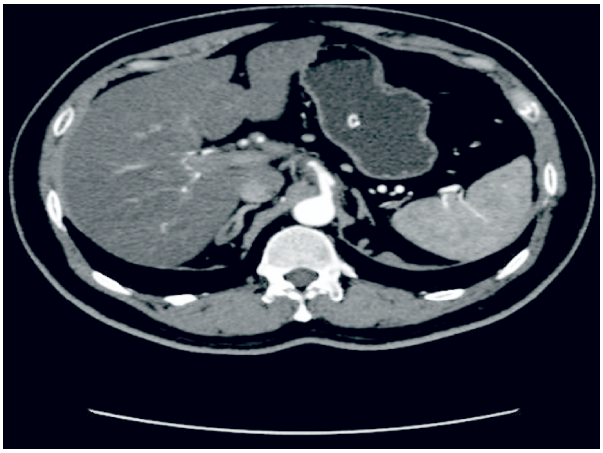

**Fig. 2:** Dissection of celiac artery - axial images of CT abdomen with contrast

## Discussion

Arterial dissection is defined as cleavage of two layers of the arterial wall caused by intramural hematoma [5]. The first reported case of spontaneous celiac artery dissection was described in 1959[3]. Only 13 cases were reported before 2001[4]. A standard search made on Medline database reveals less than 40 cases of isolated celiac artery dissection with aneurysm. Spontaneous arterial dissection is 5 times more common in men than in women, and the average age of the patients is approximately 55 years [1].

Predisposing factors have been suggested to be pre-existing vascular disease, hypertension, pregnancy, trauma and degeneration of arterial wall however, no definite cause was found in many cases [2,4]. Most patients with celiac artery dissection are asymptomatic possibly due to the lack of small bowel involvement. Some patients may present with abdominal pain which may be due to simultaneous involvement of the splenic, renal or superior mesenteric arteries causing infarction and bowel ischemia. Patients with ruptured arterial aneurysms present acutely with bleeding. Chronic dissection can present with symptoms of intestinal angina i.e. post-prandial abdominal pain and weight loss [4]. Magnetic resonance imaging, doppler ultrasonography, and conventional angiography have been used in the diagnosis of splanchnic artery dissections; however, CT angiography is considered to be the imaging technique of choice [1,4].

Diagnostic imaging findings on CT according to Kim et al. include an intimal flap, which is pathognomonic or eccentric mural thrombus in the celiac lumen, which should raise suspicion for dissection [1]. Because the intimal flap is not always visible, mural thrombus may be the only clue to the presence of dissection. The natural progression of spontaneous dissecting celiac artery aneurysm is unclear. Aneurysm rupture with intraperitoneal bleeding, distal propagation of dissection with branch vessel involvement, end-organ infarctions, and intestinal ischemia are some of the serious complications on follow-up [6]. Management of spontaneous dissecting celiac artery aneurysm should be a case-based approach. Conservative medical management, surgical and endovascular techniques are the treatment options available. Medical management consists of anticoagulative therapy. Continuous heparin administration is recommended while the patient is fasting or until the abdominal pain abates [8,9]. Therapy can later be changed to oral warfarin until improvement is

evident. If the need for anticoagulative therapy exceeds 6 months, we recommend that an invasive strategy be considered, because lifelong warfarin therapy has no proven benefit in patients with celiac artery dissection. Some authors have advocated anti platelet therapy during the acute stage of spontaneous dissection, because subendothelial injury can trigger thrombosis, [7,10]. Strict blood pressure control might prevent propagation of the dissection. Potential advantages of stenting over surgery include shorter hospital stays, less need for anticoagulation, and reduced radiation exposure from serial imaging. Potential disadvantages include stent thrombosis, restenosis, and procedure-related sequelae such as access-site complications.

## Conclusions

An isolated dissection of the visceral arteries, particularly of the celiac artery, is extremely rare. They typically present with abdominal pain, and are occasionally associated with haemorrhage. Although treatment strategies are somewhat unclear, medical management and close observation is appropriate for uncomplicated lesions. Surgical management is the preferred treatment for those patients who have associated complications or persistent or recurrent symptoms. For those patients who are not good surgical candidates, endovascular techniques provide other potential treatments options for celiac artery dissection. Early diagnosis and treatment is important for better outcome.

## References

1. D'Ambrosio N, Friedman B, Siegel D, Katz D, Newatia A, Hines J. Spontaneous isolated dissection of the celiac artery: CT findings in adults. AJR Am J Roentgenol 2007;188(6):W506-11.
2. Fenoglio L, Allione A, Scalabrino E, Alberto G, Benedetti V, Pomero F, et al. Spontaneous dissection of the celiac artery: a pitfall in the diagnosis of acute abdominal pain. Presentation of two cases. Dig Dis Sci 2004;49(7-8):1223-7.
3. Foord AG, Lewis RD. Primary dissecting aneurysms of peripheral and pulmonary arteries: dissecting hemorrhage of media. Arch Pathol 1959;68:553-77.5. Matsuo R, Ohta Y, Ohya Y, Kitazono T, Irie H, Shikata T, et al. Isolated dissection of the celiac artery–a case report. Angiology 2000;51:603-7.
4. Glehen O, Feugier P, Aleksic Y, Delannoy P, Chevalier JM. Spontaneous dissection of the celiac artery. Ann Vasc Surg 2001;15(6):687-92.
5. Matsuo R, Ohta Y, Ohya Y, Kitazono T, Irie H, Shikata T, et al. Isolated dissection of the celiac artery–a case report. Angiology 2000;51:603-7.
6. Obon-Dent M, Shabaneh B, Dougherty KG, Strickman NE. Spontaneous celiac artery dissection Case report and literature review. Tex Heart Inst J 2012;39:703-6.
7. Ozaki N, Wakita N, Yamada A, Tanaka Y. Spontaneous dissection of the splanchnic arteries. Interact CardiovascThorac Surg 2010;10(4):656-8.
8. Poylin V, Hile C, Campbell D. Medical management of spontaneous celiac artery dissection: case report and literature review. Vasc Endovascular Surg 2008;42(1):62-4.
9. Takach TJ, Madjarov JM, Holleman JH, Robicsek F, Roush TS. Spontaneous splanchnic dissection: application and timing of therapeutic options. J Vasc Surg 2009;50(3):557-63.
10. Zhang WW, Killeen JD, Chiriano J, Bianchi C, Teruya TH, Abou-Zamzam AM. Management of symptomatic spontaneous isolated visceral artery dissection: is emergent intervention mandatory? Ann Vasc Surg 2009;23(1):90-4.

# Gastroenterology International

**Library Recommendation Form**

If you would like to recommend this journal to your library, simply complete the form below and return it to us. Please type or print the information clearly. We will forward a sample copy to your library, along with this recommendation card.

**Please send a sample copy to:**

Name of Librarian

Name of Library

Address of Library

**Recommended by:**

Your Name/ Title

Department

Address

**Dear Librarian,**

I would like to recommend that your library subscribe to the **Gastroenterology International**. I believe the major future uses of the journal for your library would provide:

1. useful information for members of my specialty.
2. an excellent research aid.
3. an invaluable student resource.

**I have a personal subscription and understand and appreciate the value an institutional subscription would mean to our staff.**

Should the journal you're reading right now be a part of your University or institution's library? To have a free sample sent to your librarian, simply fill out and mail this today!

Stock Manager

**Red Flower Publication Pvt. Ltd.**

48/41-42, DSIDC, Pocket-II

Mayur Vihar Phase-I

Delhi - 110 091(India)

Phone: Phone: 91-11-45796900, 22754205, 22756995, Fax: 91-11-22754205

E-mail: sales@rfppl.co.in