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*Case Report*

# Dunbar Syndrome- A Rare Phenomenon.

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**Abstract**

**Introduction:** Median arcuate ligament syndrome (MALS), also known as Dunbar syndrome, is a rare cause of chronic abdominal pain due to extrinsic compression of the celiac artery by median arcuate ligament. Median Arcuate Ligament Syndrome (MALS) also known as Celiac Axis Compression Syndrome (CACS) or Dunbar syndrome which is a very rare condition with an incidence of about 2 cases per 100,000 patients caused by compression of the celiac trunk by the median arcuate ligament.

**Case report:** We report a middle-aged female who presented with postprandial abdominal pain, initially normal ultrasound, but escalating postprandial symptoms. Contrast- enhanced CT (CECT), revealed classic findings, confirmed by CT angiography showing moderate celiac narrowing and mild superior mesenteric artery involvement. Conservative management provided relief. This case underscores the value of targeted vascular imaging in refractory pain.

**Conclusion:** Dunbar syndrome is rare phenomenon but should be always kept in differentia diagnosis of refractory pain abdomen, especially post -prandial one. It is diagnosed on radiological investigations

**Keywords:** Median arcuate ligament syndrome, Dunbar syndrome, celiac artery compression, postprandial pain, CT angiography.

## INTRODUCTION

Median arcuate ligament syndrome (MALS) is an uncommon vascular compression disorder where the median arcuate ligament of the diaphragm impinges on the celiac trunk, often causing postprandial epigastric pain, nausea, and weight loss. (1,2) Diagnosis is often one of exclusion, given the nonspecific symptoms that overlap with other forms of chronic intestinal ischemia. We describe a case diagnosed via sequential imaging, emphasizing CECT as an early clue and CT angiography as confirmatory.

## CASE REPORT

A female patient in her forties presented to our hospital with diffuse abdominal pain postprandially. She was admitted and on the day admission, her routine blood work, including amylase, lipase, and liver function tests, was unremarkable. Abdominal ultrasound showed no gallstones, pancreatitis, or free fluid. Pain persisted despite analgesics. Symptoms intensified postprandially, manifested by sharp epigastric pain after meals, without vomiting or diarrhea. An endoscopy under sedation with help of Anaesthesiologist was non-contributory. Suspecting mesenteric ischemia or vascular aetiology, we ordered contrast- enhanced CT (CECT) of the whole abdomen. The report, demonstrated extrinsic compression of the celiac artery origin by the median arcuate ligament, with a characteristic “hooked” appearance—consistent with MALS (Dunbar syndrome). To confirm, CT angiography was performed the next day. It revealed moderate luminal narrowing (>50%) of the celiac artery just after it’s aortic origin, with post-stenotic dilatation and j shaped appearance. Mild soft plaque caused ~20% narrowing of the superior mesenteric artery origin, without occlusion. No aneurysms or dissections were noted. The patient was managed symptomatically with proton pump inhibitors, dietary modification (small, frequent meals), and pain medication, but symptoms persisted. Finally, the patient was referred to a gastro surgeon for further management.

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**Figure 1.** CT Angiogram Showing Compression of Celiac Artery (Green Arrow).

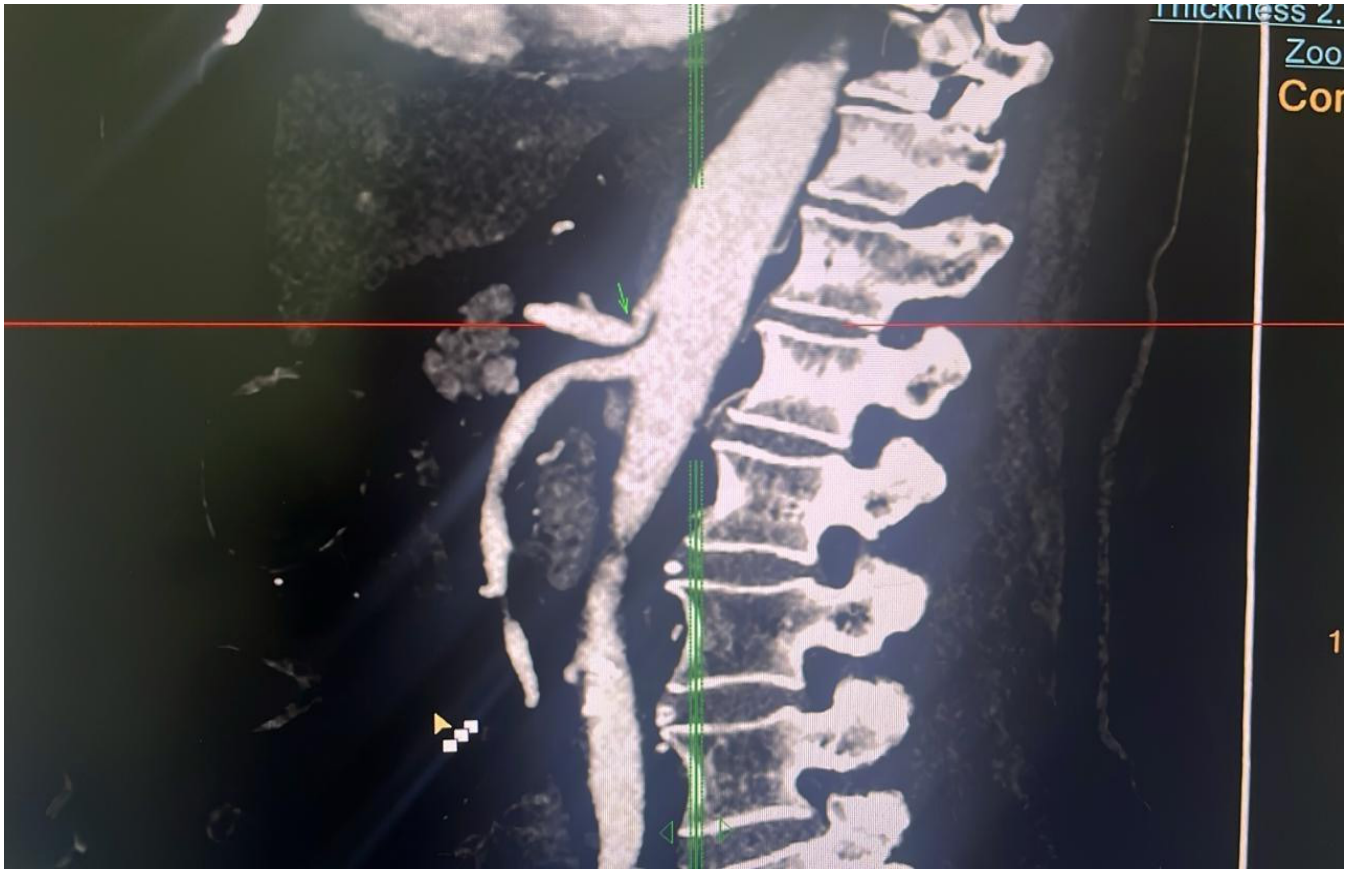



**Figure 2.** CT Angiogram Showing Different View of Compression of Celiac Artery (Green Arrow).

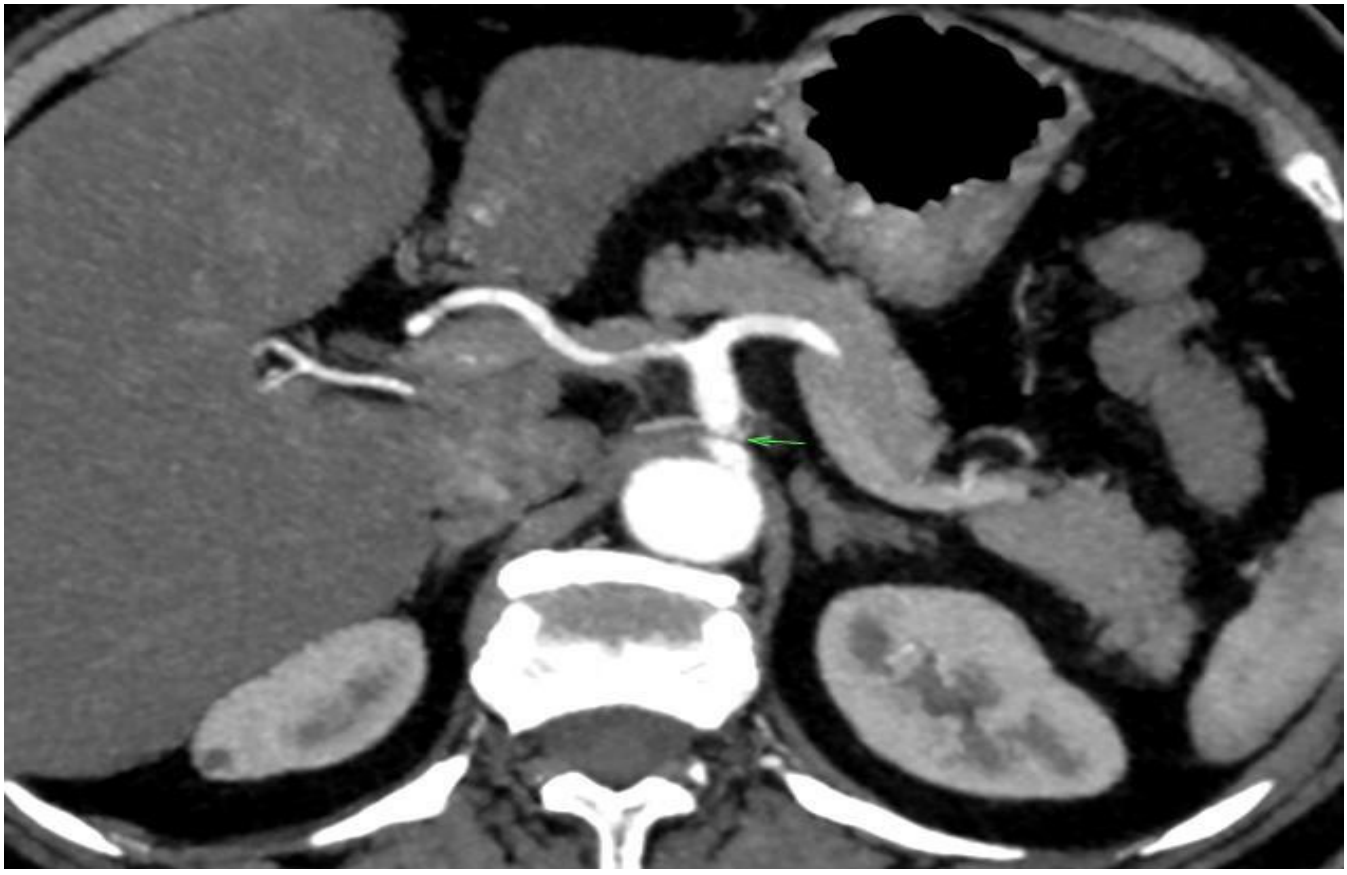
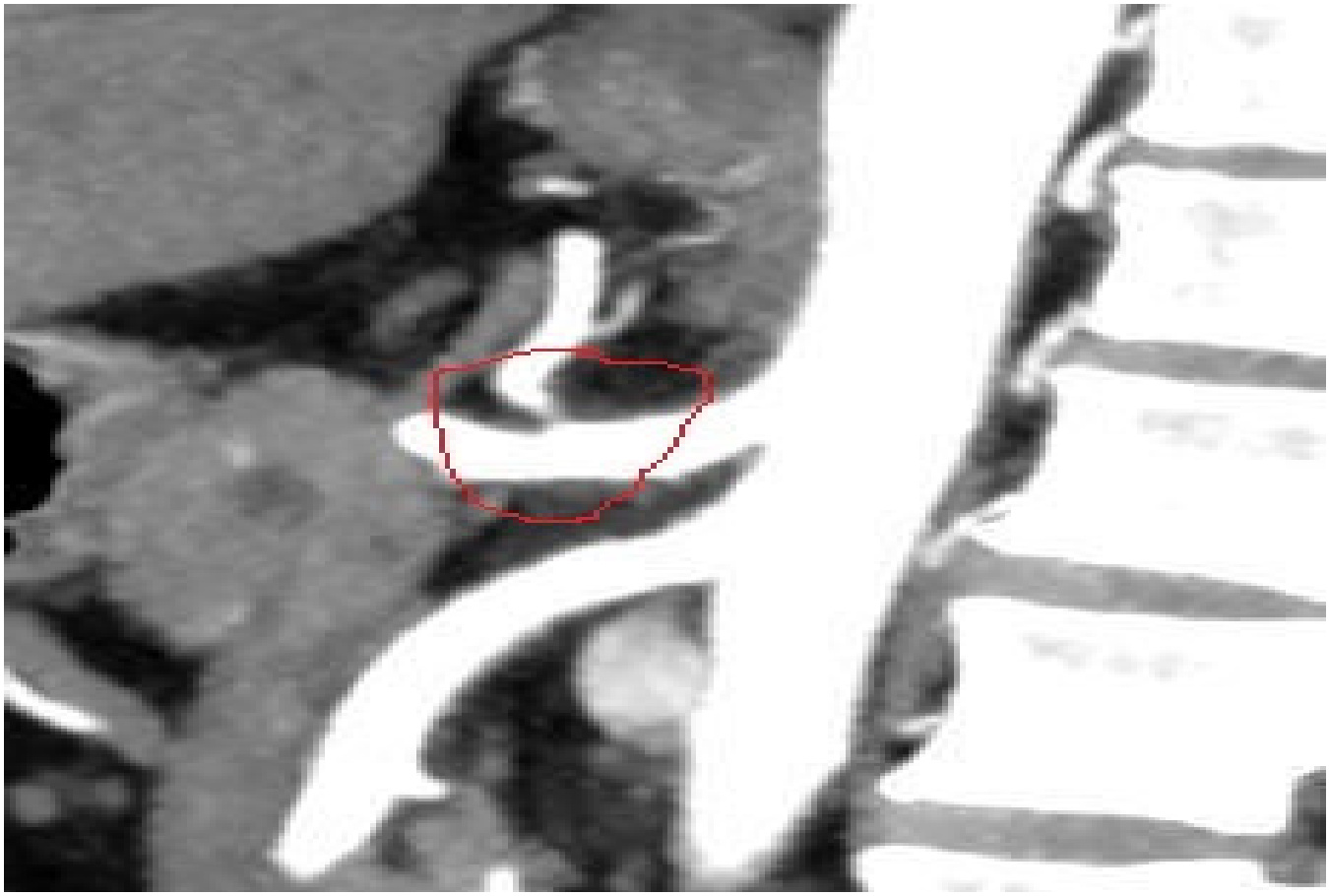


**Figure 3.** CT Angiogram Showing Different View of Compression of Celiac Artery ( Red Circle).



## DISCUSSION

The median arcuate ligament is a fibrous arch connecting the crura of the diaphragm forming the aortic hiatus and lying superior to the celiac artery. Median Arcuate Ligament Syndrome (MALS) also known as Celiac Axis Compression Syndrome (CACS) or Dunbar syndrome which is a very rare condition with an incidence of about 2 cases per 100,000 patients caused by compression of the celiac trunk by the median arcuate ligament. The aetiology of Dunbar's syndrome is not well known as it is rare and is difficult to diagnose and treat. (3) MALS affects young-to-middle-aged females disproportionately, with postprandial pain as the hallmark. (4) Women with MALS outnumber men by 2:1 to 3:1, and the typical age of onset is in the fourth and fifth decades. (5) Recently, ideas about the aetiology of MALS have shifted from its being a vascular disease to a neurogenic disorder with compression of the surrounding celiac plexus and ganglion. (6) The differential diagnosis of Dunbar syndrome includes gastroparesis, gastritis, peptic ulcer disease, hepatitis, cholecystitis, biliary dyskinesia, appendicitis, chronic pancreatitis, colorectal malignancy, or chronic mesenteric ischemia secondary to atherosclerotic disease. The initial ultrasound is often normal, thus delaying diagnosis. The CECT provides high-resolution vascular detail, while CT angiography is gold standard and confirms dynamic compression (worse on expiration). (1) Here, the timeline (normal US → escalating symptoms → imaging) mirrors real-world challenges. The concurrent mild SMA plaque is incidental but warrants monitoring. Conservative therapy suits mild cases; surgery (laparoscopic release) achieves 70-80% relief in refractory ones per recent consensus. (7)

## CONCLUSION

Dunbar syndrome is rare phenomenon but should be always kept in differentia diagnosis of refractory pain abdomen, especially post -prandial one. It is diagnosed on radiological investigations. Our report highlights how timely vascular imaging can avert misdiagnosis in unexplained pain—especially relevant for gastroenterologists.

### Conflict of Interest

The authors declare that there was no conflict of interest, no financial support was taken and proper consent was taken from the patient before publication of this case report.

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