

Robotic Assisted Median Arcuate Ligament Release; a Case Series of Successful Patient Outcomes

Nicole Hatala, MD; Caleb Hood, MD; Maddie Brune, MD; Molly Gunter, MS4; Emily Hartlage, MD; Joshua Landreneau, MD; Thaqi Milot, MD
University of Missouri - Columbia

Median Arcuate Ligament Syndrome (MALS):

- Mechanism: aberrant location of either the median arcuate ligament (MAL) or the celiac trunk leading to compression of the celiac trunk structures
- Symptoms: abdominal pain, nausea, and bloating
- Diagnosis: one of exclusion with no specific diagnostic criteria - imaging is often used for confirmation
- CT findings: narrowing of the celiac artery with post stenotic dilation
- Treatment: surgery to release the MAL and relieve pressure on the celiac trunk [1]

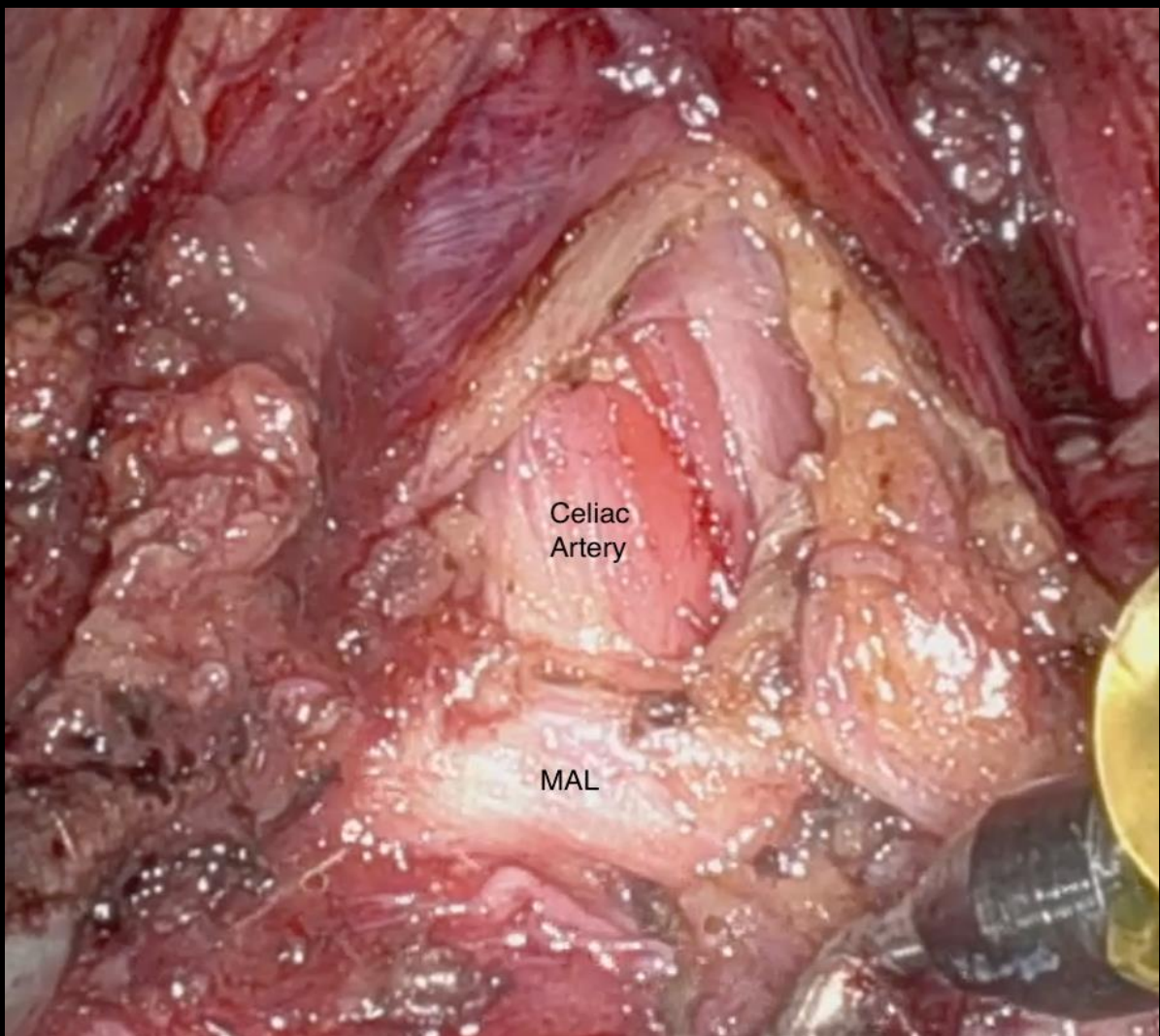
Our study: We present three cases of individuals presenting with MALS who underwent operative intervention and their outcomes.

Case 1: 19-year-old male who presented with post-prandial abdominal pain and imaging suggestive of MALS on both CT and ultrasound. He underwent a robotic assisted MAL release (MALR) and had complete resolution of his symptoms post operatively.

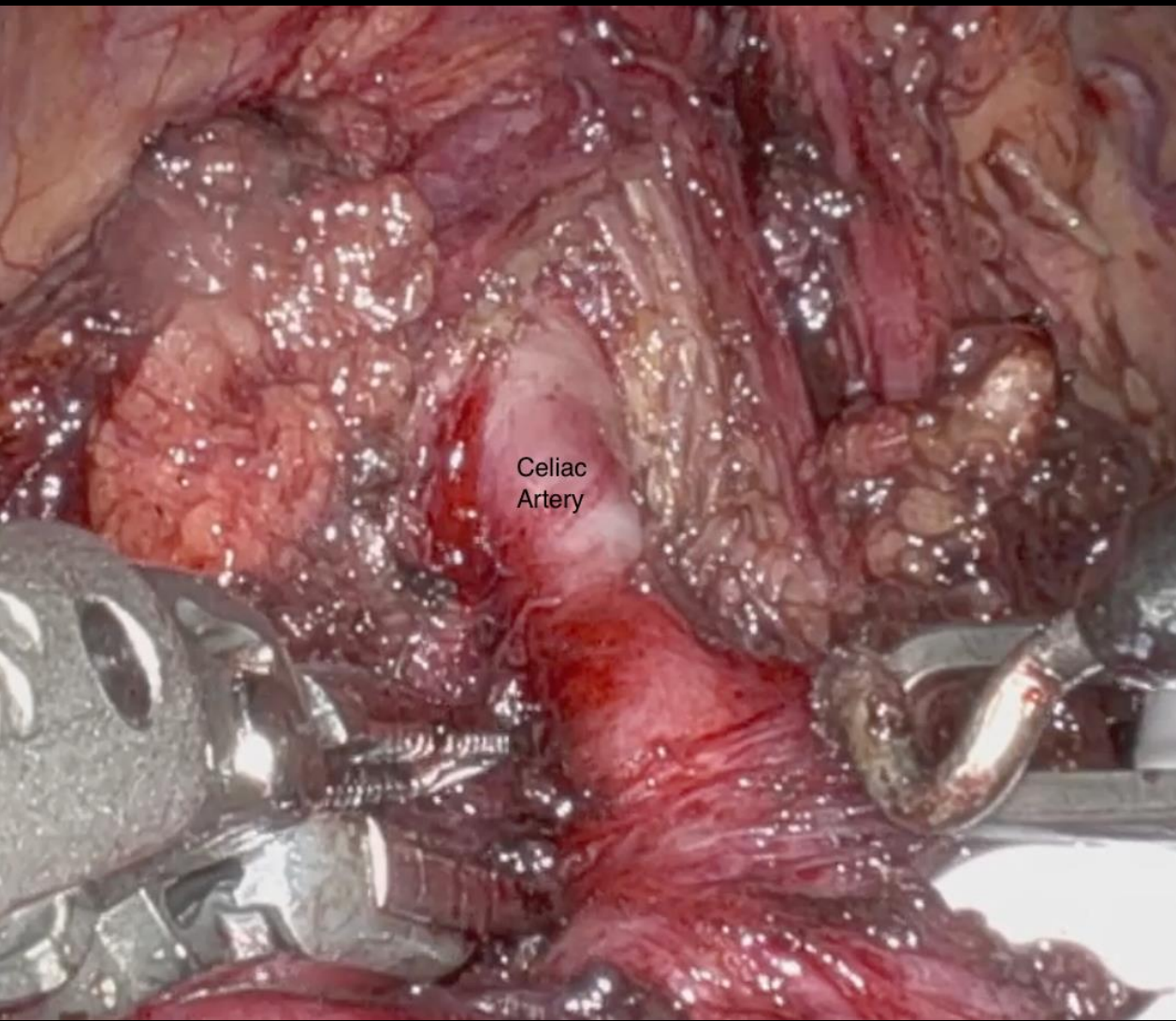


CT imaging with J shaped deformity and post stenotic dilation of the celiac artery

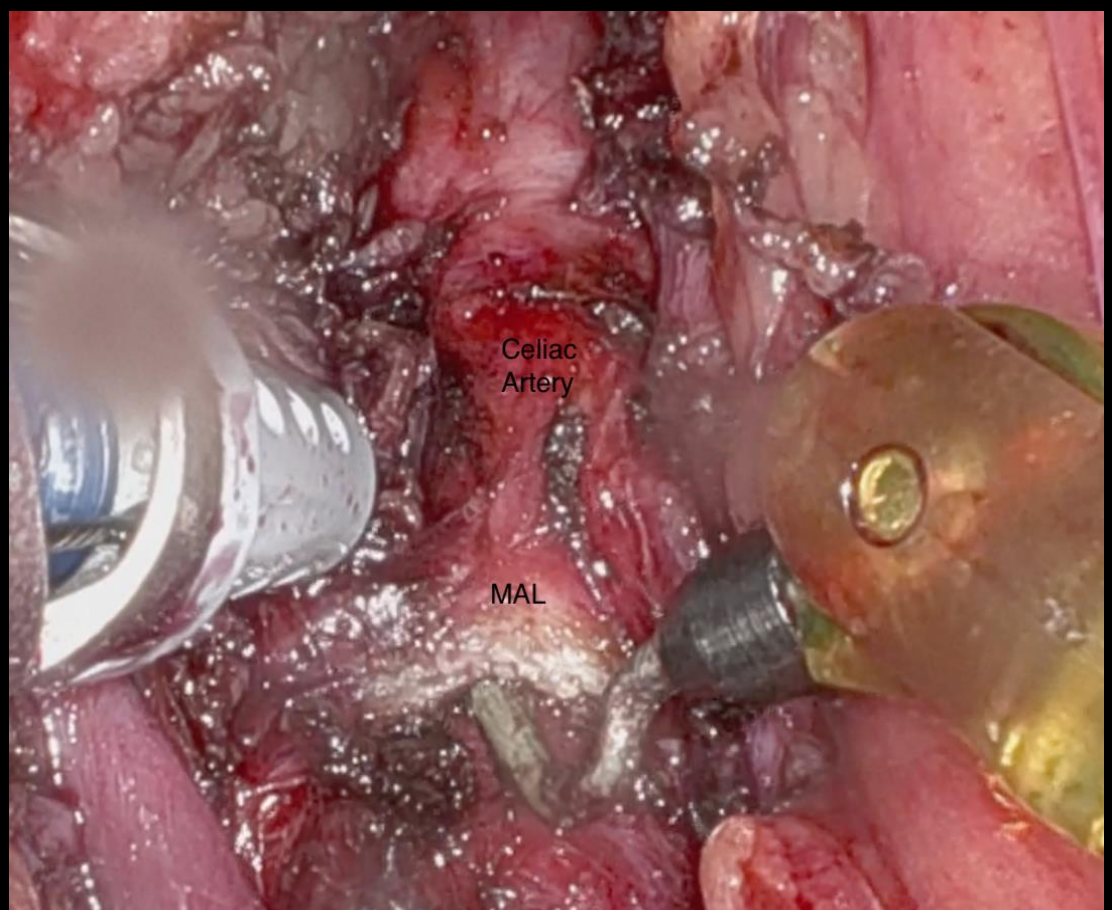
Case 2: 46-year-old female with a history of GERD and known paraesophageal hernia who was diagnosed with MALS after one year of post-prandial epigastric pain with characteristic findings on both CT and ultrasound. She underwent robotic-assisted MALR with concurrent hiatal hernia repair and fundoplication, with complete resolution of postprandial epigastric pain.



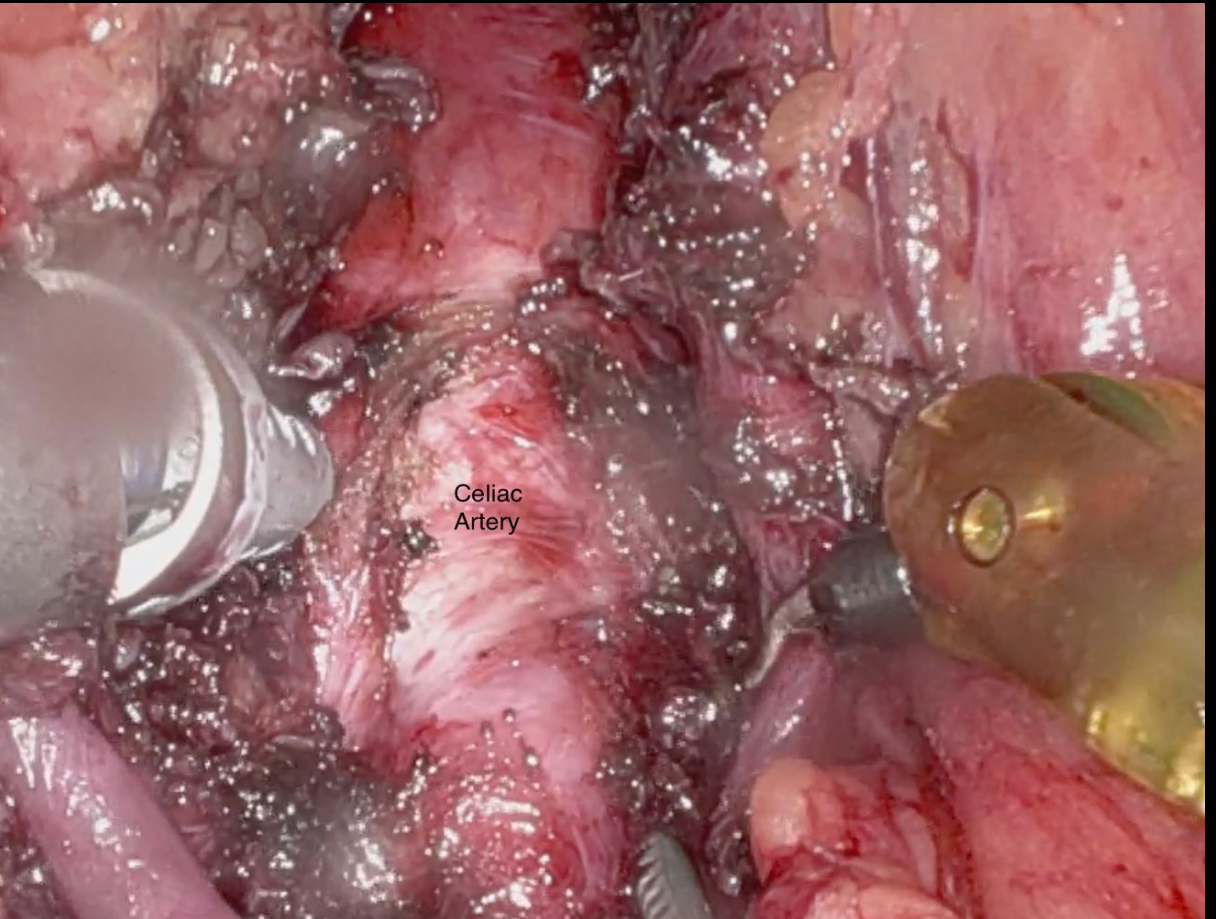
Before (left) and after (right) MAL release



Case 3: 36-year-old female presenting with seven years of post-prandial epigastric pain. After ruling out all other possible causes of pain and undergoing a successful celiac plexus block, she elected to proceed with robotic assisted MALR. Post-operatively she has had complete relief of her symptoms.



Before (left) and after (right) MAL release



Discussion

Laparoscopic MALS release has become an accepted method of treatment for patients with symptomatic MALS [2], however results have been variable [3,4]. One multisystem review evaluated 24 different institutions who treated 516 patients with MALR, found only 64% of patients to have freedom from treatment failure at 1 year and only 52% at 3 years [5]. All three of our patients had relief of their symptoms post operatively, demonstrating robotic assisted MALR to be a successful treatment option.

Sources
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