The Overlap of Superior Mesenteric Artery Syndrome and Eating Disorders: A Systematic Review of Diagnostic Pitfalls.

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Introduction

- Superior Mesenteric Artery (**SMA**) syndrome (Wilkie's Syndrome/Benign Duodenal Stasis)—is a rare but serious condition caused by compression of the third part of the duodenum between the aorta and the superior mesenteric artery.
- It leads to **GI symptoms** such as nausea, vomiting, postprandial epigastric pain, early satiety, anorexia, symptoms of bowel obstruction, and progressive weight loss.
- This condition preferentially affects young female adults and adolescents.
- SMA syndrome can **mimic/coexist** with anorexia nervosa or functional dyspepsia, leading to frequent **misdiagnosis** or delayed recognition—particularly when appropriate radiologic studies are not performed or when the clinical presentation is atypical.
- In many cases, symptoms may be incorrectly attributed to the psychiatric features of **eating disorders**, resulting in clinical blind spots and diagnostic delay.

Methods and Materials

Design:- Systematic review following PRISMA guidelines.
Databases searched:- PubMed, Google Scholar, Scopus
Timeline:- 1978- July 2025.
Inclusion criteria:- English, described human subjects diagnosed with SMA syndrome, with particular emphasis on diagnostic overlap, misdiagnosis, or comorbidity with eating disorders such as anorexia nervosa.
Eligible study types included case reports, case series, and narrative reviews with accessible full texts.
Exclusion criteria:- Studies lacking relevance to diagnostic considerations (e.g., those focused solely on surgical techniques), publications in languages other than English, abstract-only articles without full-text availability, and duplicate reports unless they provided significantly new clinical information.

- Two independent reviewers screened titles, abstract and full texts.
- Joanna Briggs Institute checklist was used for Critical appraisal of methodology quality.

Results

- A total of 129 articles were reviewed
- **32** met the inclusion criteria—comprising 30 case reports and 2 narrative reviews.
- Most cases included **young, underweight females** whose symptoms were initially attributed to eating disorders (functional dyspepsia, anorexia nervosa), which delayed the definitive diagnosis of SMA syndrome.
- The overlap of **psychosomatic** and **physiological** symptoms was a major contributor to clinical confusion.
- Risk of bias assessment indicated low-to-moderate with limitations due to selective reporting and **publication bias**; however, findings consistently highlighted imaging as the **pivotal diagnostic tool**.

Fig 1 CT scan showing decreased Aortomesenteric angle- SMA syndrome (ref 1)

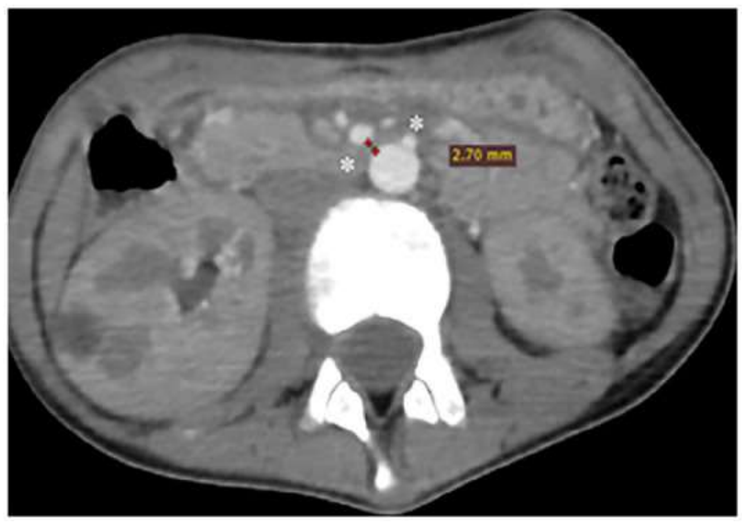

Fig 2. Axial contrast CT scan shows short aorta-SMA distance (2.7 mm) at level of duodenum (asterisk) after inserting a nasogastric tube. (ref 2)

Discussion/Conclusion

- Imaging modalities such as **contrast-enhanced CT**, ultrasound, multiplanar CT reconstruction, MR angiography, and dynamic barium studies were pivotal in achieving diagnostic clarity.
- Awareness of the **clinical association** between SMA syndrome and restrictive eating disorders is essential to guide clinical decision-making and prevent delayed diagnosis and potential life-threatening complications.
- Further studies are required to standardize clinical diagnosis.

References

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