

The Prevalence of Comorbid Conditions in Patients With Median Arcuate Ligament Syndrome and Superior Mesenteric Artery Syndrome

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INTRODUCTION

Patients affected by Median Arcuate Ligament Syndrome (MALS) and SMA Syndrome (SMAS) are often affected by other compression syndromes¹. Diagnosis of each condition often requires a high index of suspicion. Conditions like Ehlers-Danlos syndrome (EDS)¹, Postural Orthostatic Tachycardia Syndrome (POTS), and Mast Cell Activation Syndrome (MCAS) are also common in this patient population.

Patients often present with a long history of gastrointestinal (GI) complaints²⁻⁴ and a constellation of symptoms related to dysautonomia⁵. Due to this, diagnosis of MALS and SMA Syndrome is often delayed, leading to symptom chronicity. Patients in this cohort have also been noted to have a high incidence of psychiatric conditions, adding to the complexity of this patient population⁶. Optimized management of associated comorbidities is essential for achieving favorable postoperative outcomes.

METHODS

- Retrospective chart review
- Patients who underwent surgery for MALS and SMAS between November 2016 and August 2025
- Data on patient demographics and past medical history were collected
- Prevalence of compression syndromes and other comorbidities were evaluated

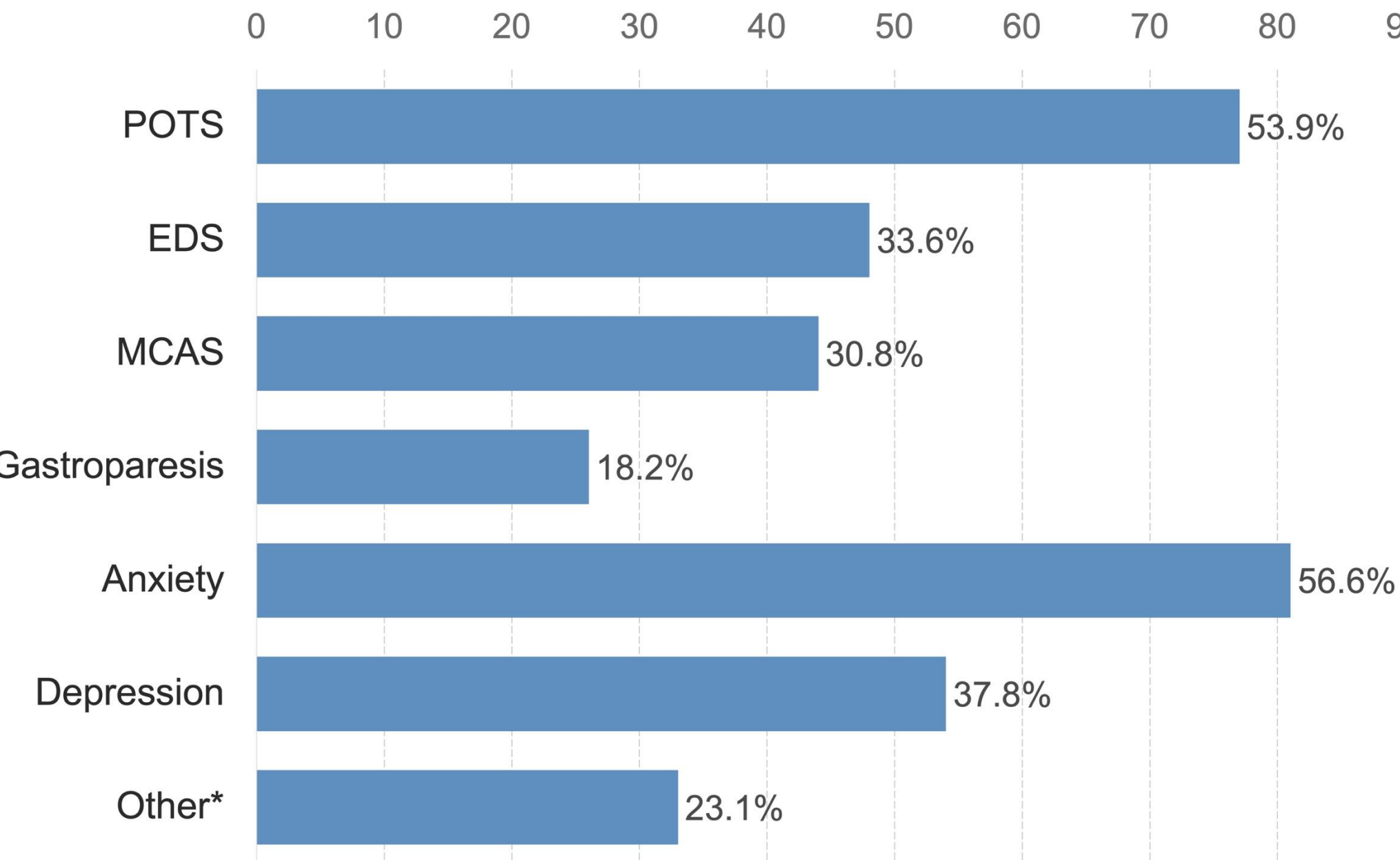
RESULTS

- 143 patients** were identified, and **42% presented with multiple compression syndromes**
- 45 (32.1%) patients with MALS developed SMA Syndrome**
 - 39 required surgical treatment for both syndromes
- 25 out of 48 patients with a history of EDS** presented with **multiple compression syndromes**

Table 1. Baseline Characteristics

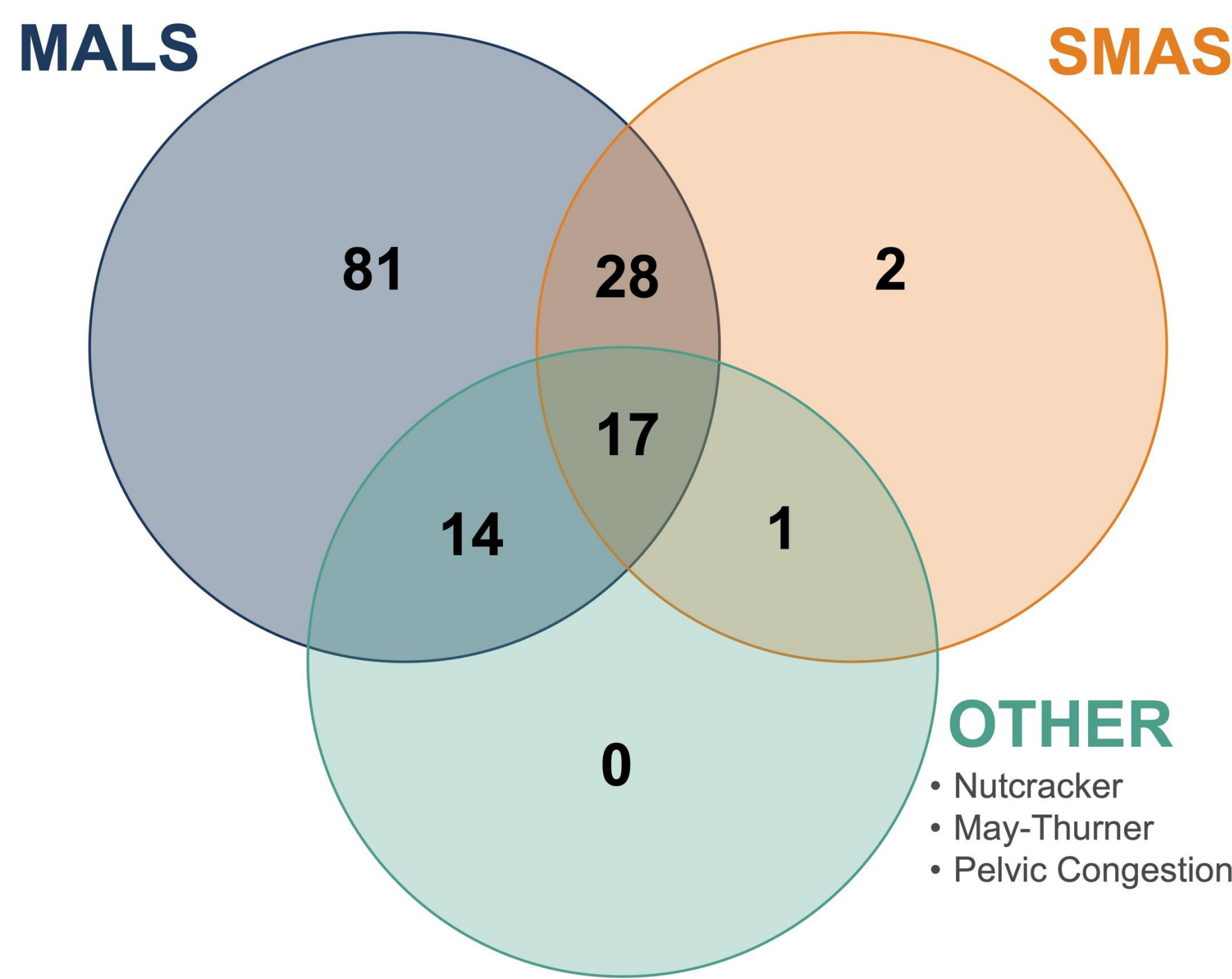
Mean age, years (range)	28.2 (13-62)
Female, <i>n</i> (%)	122 (85.3%)
Clinical Presentation, <i>n</i> (%)	
Chronic abdominal pain	143 (100%)
Weight loss	119 (83.2%)
Index Operation, <i>n</i> (%)	
MALS	103 (72%)
SMAS	16 (11.2%)
Concurrent MALS and SMAS	24 (16.8%)

Figure 2. Other Associated Comorbid Conditions



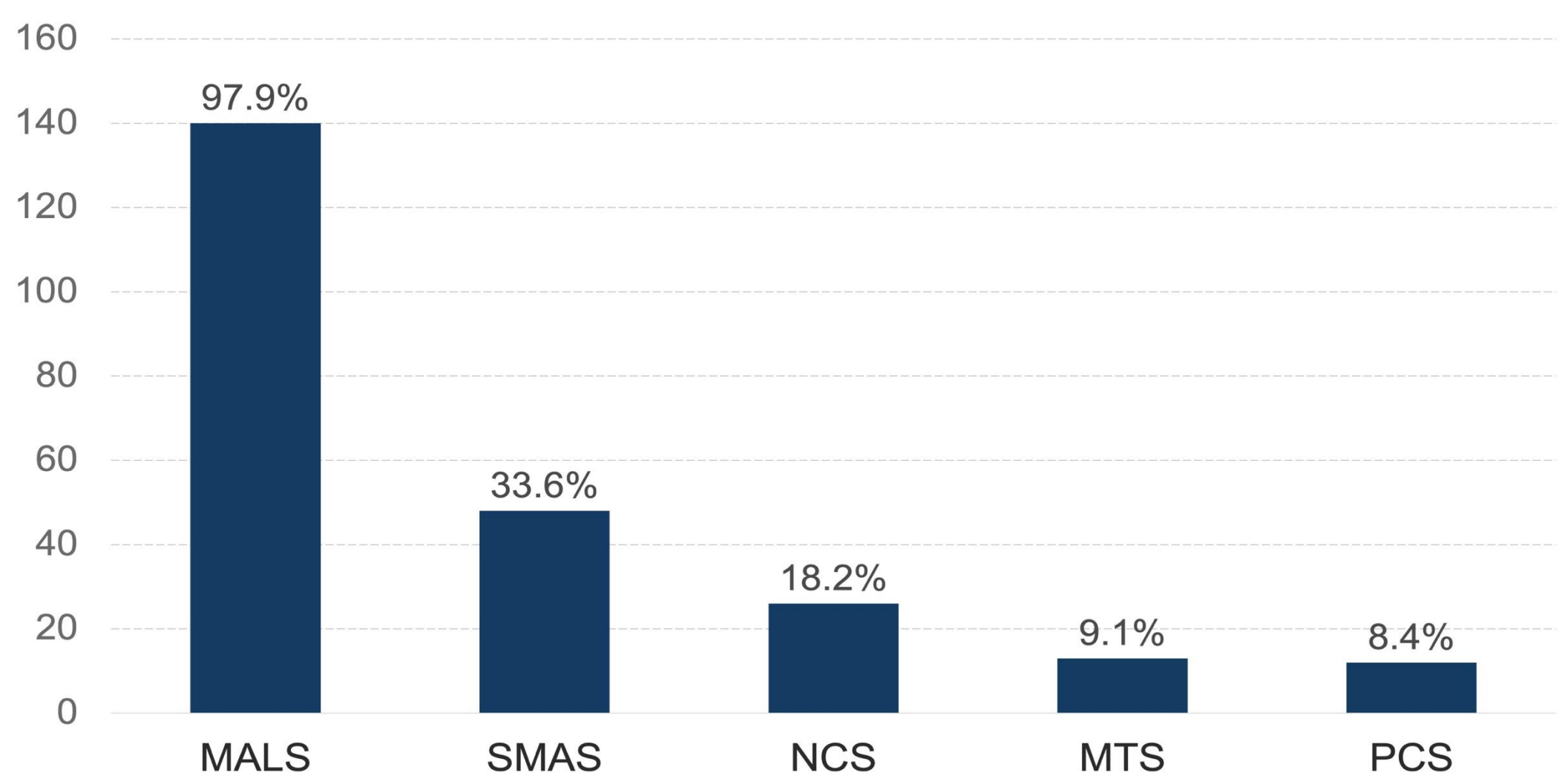
*Other psychiatric comorbidities: obsessive compulsive disorder, post-traumatic stress disorder, bipolar disorder, borderline personality disorder, suicidal ideations, and eating disorders

Figure 1. Overlap of Compression Syndromes



OTHER
• Nutcracker
• May-Thurner
• Pelvic Congestion

Figure 3. Prevalence of Compression Syndromes



Note: NCS, Nutcracker; MTS, May-Thurner; PCS, Pelvic Congestion

CONCLUSION

- Patients with MALS and/or SMAS frequently present with multiple compression syndromes.
- In this series of 143 patients, 42% were found to have an additional compression other than MALS or SMAS.
- Other comorbidities such as POTS, EDS, MCAS, anxiety, and depression are also commonly observed in this patient population.
- 31.5% of patients with MALS later developed SMAS**, highlighting the **interconnectivity of these syndromes**
- Recognition and adequate management of these conditions** by a multidisciplinary team is **crucial for optimizing postoperative recovery and achieving favorable long-term outcomes**.

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