

Sling-related chronic pain and the role of microbial colonization: A case series

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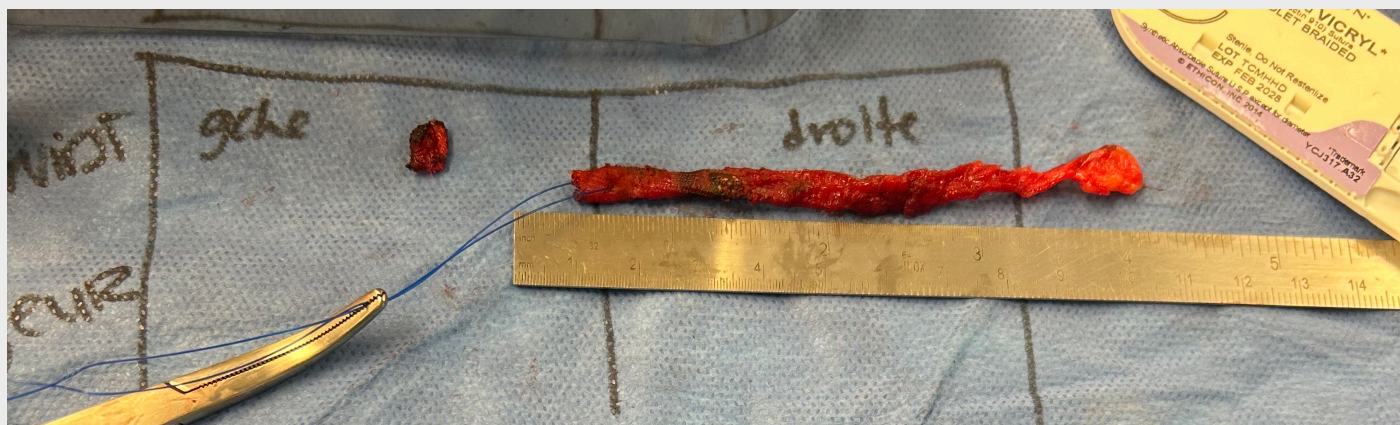
1. Background

- Sling surgery = cornerstone intervention for patients who fail to respond to conservative treatments for stress urinary incontinence (SUI)
- **Sling excision owing to chronic pain = 1%**
- Proposed etiologies: sling exposure, mesh contraction or retraction, hematoma, nerve irritation, myositis, idiosyncratic responses

→ **Gap: the potential role of sling colonization in chronic pain development after surgery for SUI remains largely unexplored...**

Study aims

To provide some of the first evidence supporting the role of low-grade sling infection as a contributor to chronic pain after surgery for SUI



2. Methods

Design and Population

Retrospective case series of patients who...

- Underwent a sling procedure for SUI;
- Experienced persistent (≥ 3 months), unexplained sling-related pain.

→ n = 4 (3 ♀, 1 ♂)

Data Collection

	Pain assessment: cystoscopy, physical examination, MRI
	Sling infection: bacterial cultures of excised material
	Patient-level risk factors: retrospective analysis of medical records

3. Results

Chronic pain characteristics	Patient (sex, age)	Right sling end culture	Left sling end culture
Onset (years after implantation): mean = 5.5, range = 2-10	F, 55	<i>Cutibacterium avidum</i> <i>Peptostreptococcus</i> sp. <i>Staphylococcus lugdunensis</i> <i>Streptococcus constellatus</i>	<i>Bacteroides fragilis</i> Gram-negative bacilli
Location: vagina, vulva, groin, upper thigh (with radiation to testis in the male patient)	F, 57	<i>Campylobacter rectus</i> <i>Peptostreptococcus</i> sp. <i>Streptococcus constellatus</i>	<i>Campylobacter rectus</i> <i>Gardnerella vaginalis</i> <i>Prevotella bivia</i> <i>Streptococcus constellatus</i>
Patterns: intensification over time; intermittent pain worsened by daily activities (walking, vaginal penetration, etc.)	F, 55	<i>Sphingomonas paucimobilis</i> <i>Streptococcus constellatus</i>	N
Underlying pain conditions: fibromyalgia in ¼ patient	M, 79	<i>Peptostreptococcus</i> sp. <i>Staphylococcus epidermidis</i> <i>Staphylococcus haemolyticus</i>	

4. Implications

Mesh contamination: Appears associated with sling-related chronic pain, regardless of the presence of mesh exposure

Proposed mechanism:

1. Subclinical infection (biofilm formation)
2. Chronic inflammation of surrounding tissues
3. Onset and progression of persistent pain

Further research is needed to...

- Confirm the contribution of sling infection
- Assess preventive measures, which should extend beyond standard perioperative antibiotic prophylaxis

Conclusion

Low-grade or subclinical bacterial colonization of sling material may be an underrecognized contributor to chronic pain after surgery for SUI.

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