Laparoscopic Repair of Giant Hiatal Hernia Reinforced with Bovine Dura Mater: An Institutional Cohort (2021-2025) and Historical Comparison

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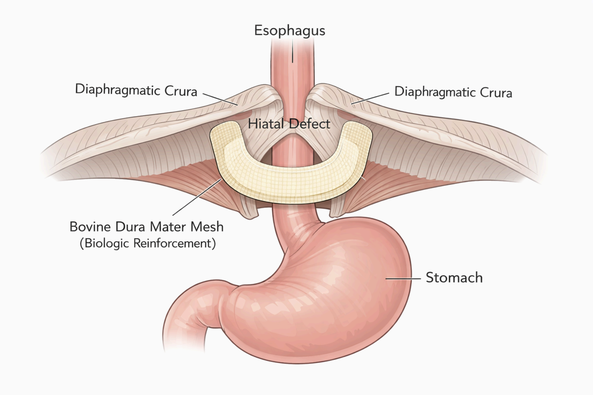
Background

- Recurrence after giant hiatal hernia repair remains a major challenge.
- Biologic meshes aim to reduce recurrence while avoiding synthetic mesh-related complications.
- Bovine dura mater has not been previously evaluated in adult hiatal hernia repair.
- This study compares bovine dura mater reinforcement vs primary crural closure.



Methods

- Retrospective cohort (2021–2025), Clínica El Rosario.
- Adults (≥18 years) undergoing laparoscopic repair of giant hiatal hernia.
- Two groups:
- Bovine dura mater mesh reinforcement
- Primary closure without mesh
- Outcomes: clinical success, complications, recurrence, reintervention, mortality.
- Complementary historical comparison (Clínica SOMA, 2019–2021).

N= 20

Patients recieving biological mesh reinforcement (bovine dura mater)

N= 45

Patients undergoing primary closure without mesh

Results

Retrospective Cohort Clinica el Rosario

Clinical Outcomes Comparison

	Bovine Dura Mater Mesh (n = 20)	No Mesh (n = 45)
Clinical Success	95.0% (19/20)	86.7% (39/45)
	RR 1.19 (95% CI: 1.00–1.41)	
Complications	5.0%	8.9%
Recurrence	15.0%	13.3%
	15.0%	
Mortality	0%	0%
	0%	0%

Clinical outcomes comparison between bovine dura mater in giant hiatal hernia repair is safe and associated with higher clinical success without increased complications.

Historical SOMA series

Laparoscopic giant hiatal hernia repair with bovine dura mater mesh reinforcement

Technical Success	87.5% (14/16)
Clinical Success	93.8% (15/16)
Intra/Postoperative Complications	12.5%
Clinical Recurrence	0%
Mortality	0%

n = 16

Conclusions

- Bovine dura mater reinforcement showed higher clinical success without increased morbidity.
- Recurrence rates remain uncertain due to sample size and follow-up duration.
- Findings support safety and feasibility, warranting multicenter validation.

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