

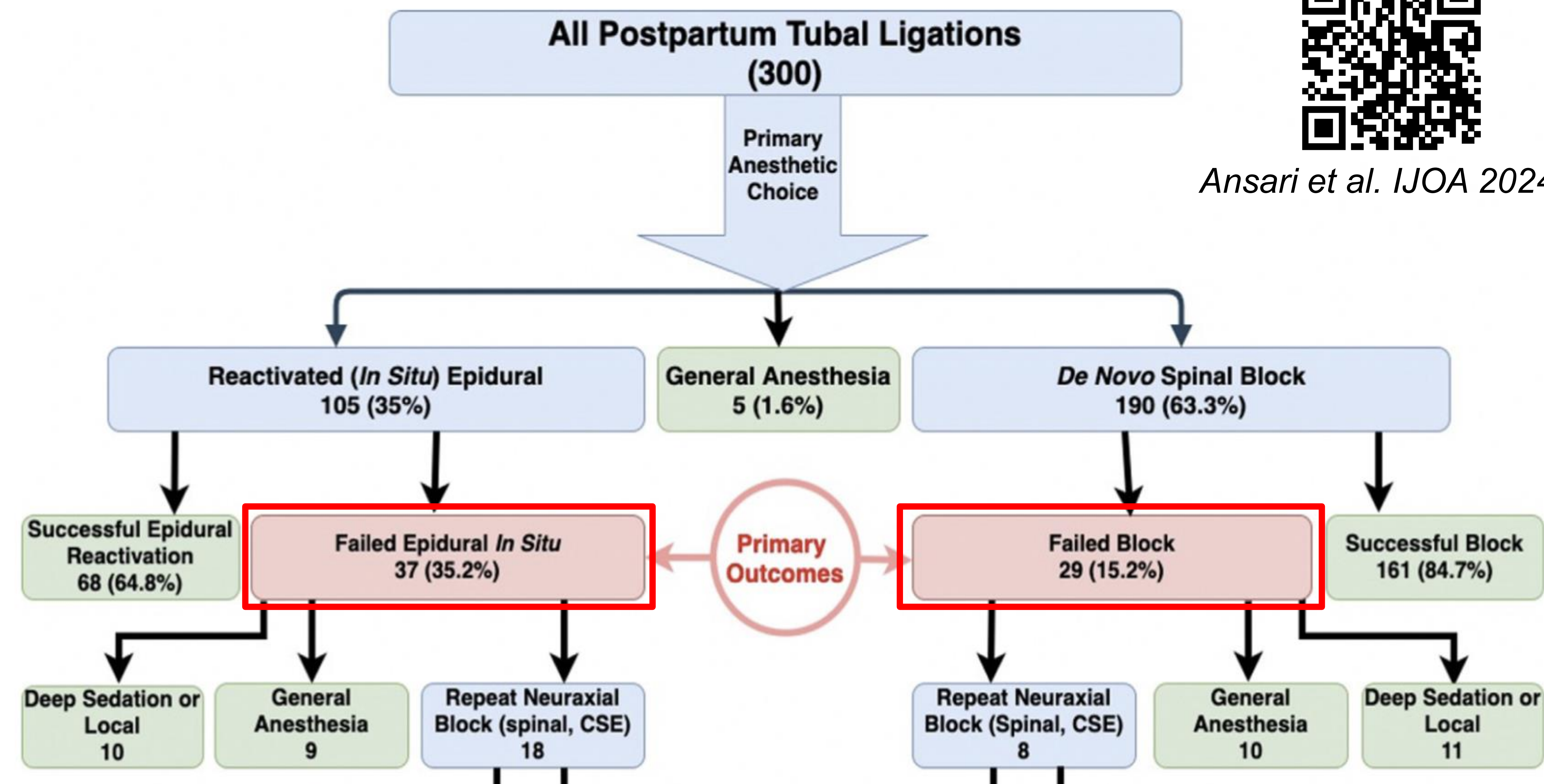
A retrospective analysis of neuraxial anesthesia failures for post-partum tubal ligation procedures: Could umbilical sparing be to blame? Thomas CL, Liao CL, Nizamuddin SL

Background

- Postpartum tubal ligation (PPTL) is one of the most common forms of contraception in the USA
- Neuraxial anesthesia failure rates are higher in PPTL than cesarean delivery
 - Etiology unknown
- Umbilical sparing: residual periumbilical sensation

Aims

- To evaluate anesthetic failures for patients undergoing PPTL and measure the potential implications of umbilical sparing



Methods

- A priori sub-analysis of single-center retrospective cohort study
- Inclusion: PPTL during same admission as vaginal delivery (2013-2023)
- Exclusion: PPTL with concurrent cesarean delivery; interval PPTL

Primary outcome

- *Rate of umbilical sparing*
- *Rate of anesthetic failure due to umbilical sparing*

Characteristic	Umbilical Sparing	No umbilical sparing	Total	P
N (%)	40 (11.0%)	323 (89.0%)	363 (100.0%)	
Age (years), mean (SD)	32.1 ± 4.6	32.7 ± 4.6	32.7 ± 4.6	0.43
Race, N (%)				
White	4 (10.0%)	29 (9.0%)	33 (9.1%)	0.75
Black	33 (82.5%)	254 (78.6%)	287 (79.1%)	
Asian	0 (0.0%)	3 (0.9%)	3 (0.8%)	
Other	1 (2.5%)	25 (7.7%)	26 (7.2%)	
> one race	2 (5.0%)	12 (3.7%)	14 (3.9%)	
Ethnicity, N (%)				
Not Hispanic	36 (90.0%)	271 (83.9%)	307 (84.6%)	0.76
Hispanic	4 (10.0%)	45 (13.9%)	49 (13.5%)	
Insurance, N (%)				
Private	17 (42.5%)	130 (40.2%)	147 (40.5%)	0.89
Public aid	21 (52.5%)	162 (50.2%)	183 (50.4%)	
Self-pay	2 (5.0%)	28 (8.7%)	30 (8.3%)	
Height (m), median (IQR)	2 (2-2)	2 (2-2)	2 (2-2)	0.04
Weight (kg), median (IQR)	81 (69-89)	83 (70-94)	82 (70-93)	0.80
BMI (m/kg ²), median (IQR)	30 (27-34)	31 (27-36)	31 (27-36)	0.44
Gestational age (weeks), median (IQR)	39 (38-40)	39 (38-39)	39 (38-39)	0.81
Gravidity, median (IQR)	5 (3-6)	5 (4-6)	5 (4-6)	0.35

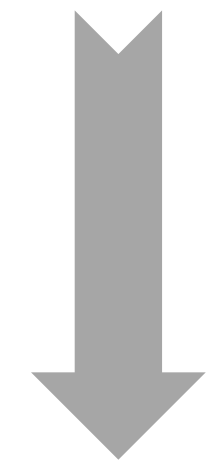


AT THE FOREFRONT

UChicagoMedicine

Results

363 patients underwent PPTL

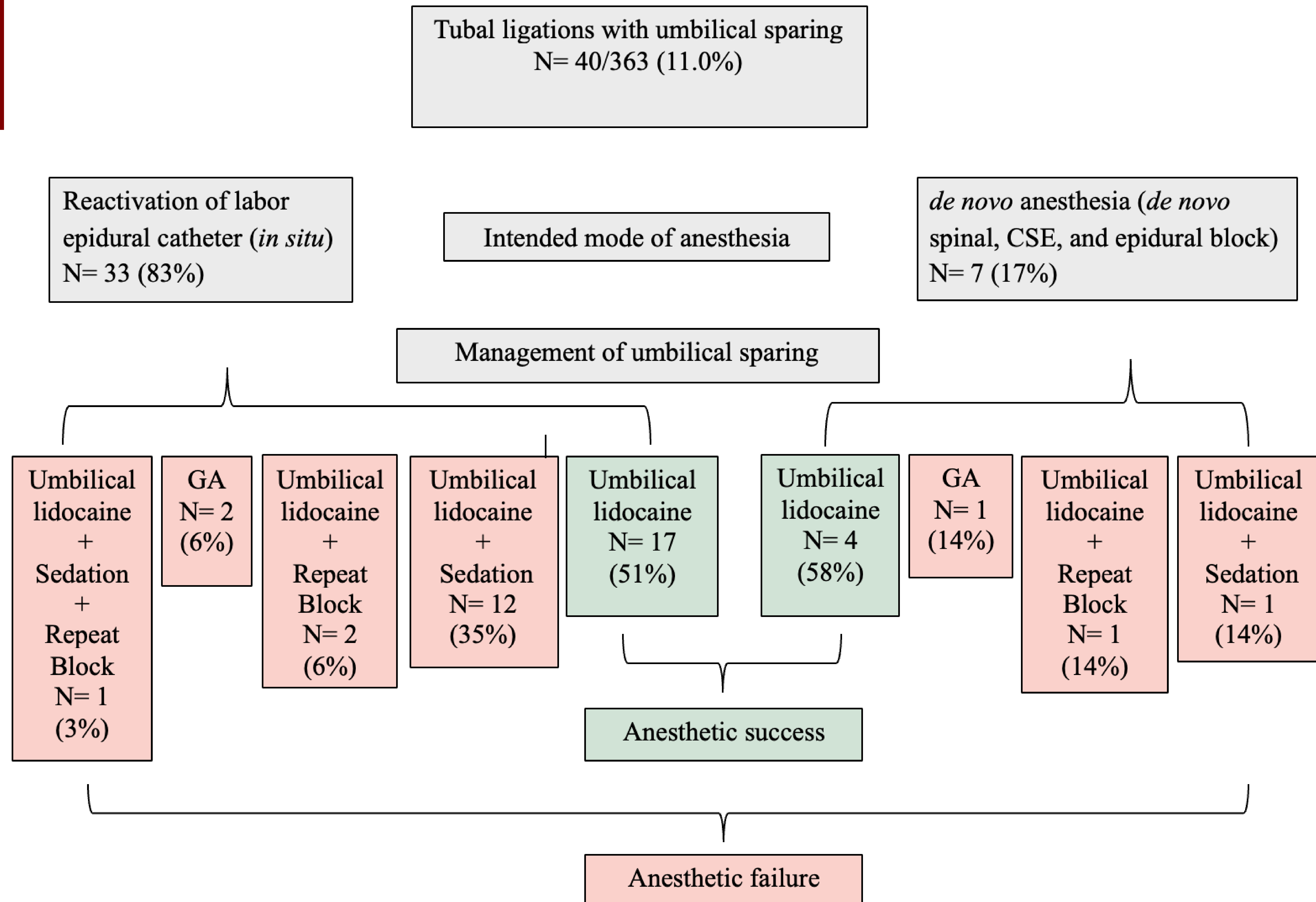


69 (19%) patients with failed anesthesia

40 patients (11%) had umbilical sparing



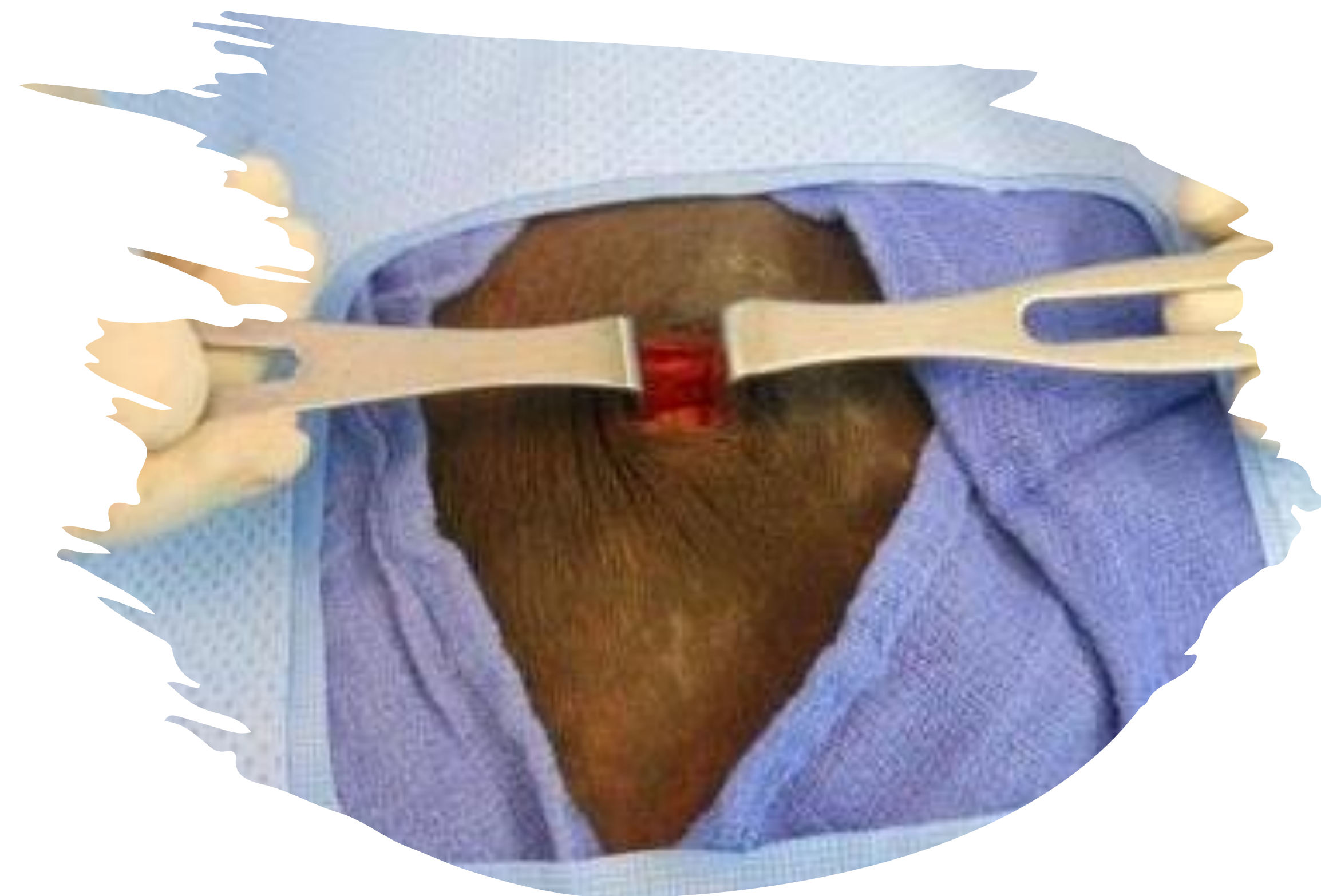
19 patients (47.5%) had anesthetic failure due to umbilical sparing



Discussion

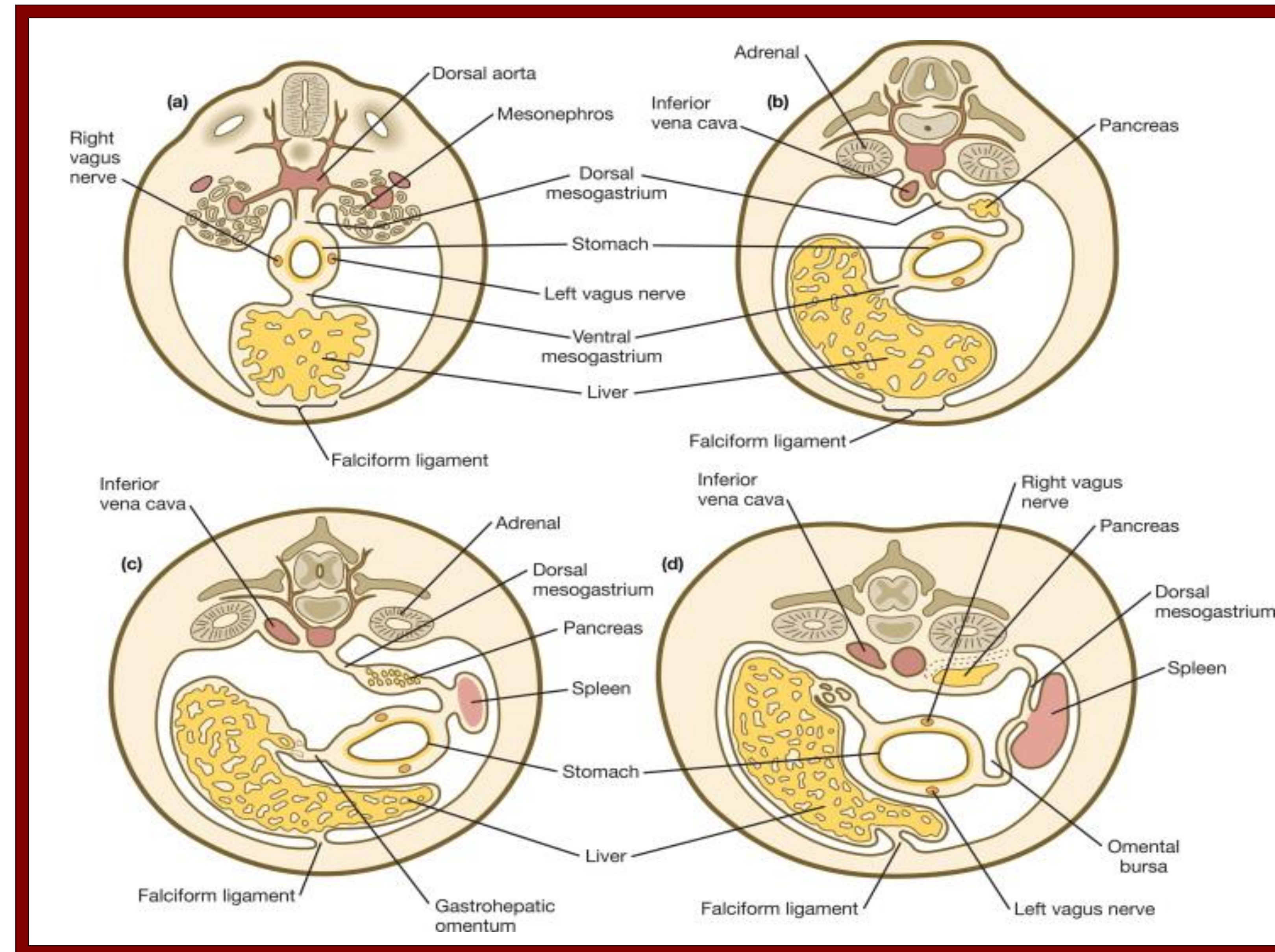
Findings

- Umbilical sparing occurs in 11% of all PPTL patients
- Umbilical sparing is implicated in 28% of neuraxial anesthesia failures
- 53% of patients with umbilical sparing underwent successful PPTL after periumbilical lidocaine infiltration



Limitations

- Retrospective data may underestimate rate of umbilical sparing
- Mechanism of umbilical sparing?



Future Directions

- Prospective evaluation of potential explanatory variables:
 - Umbilical sparing rates
 - Standardization of periumbilical local anesthesia
 - Embryologic research on umbilical innervation

Umbilical Sparing: is it skin deep?



AT THE FOREFRONT
UChicago Medicine

SOAP
Society for Obstetric
Anesthesia and Perinatology

Images courtesy of Barbara Scavone