

LAPAROSCOPIC VERSUS OPEN REPAIR OF INDIRECT INGUINAL HERNIA IN CHILDRENS: EXPERIENCE IN HONDURAS



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INTRODUCTION

- Indirect inguinal hernia (IIH) occurs in 1–5% of term newborns; up to 30% in premature male infants.
- Open repair (OR) remains the worldwide gold standard.
- Laparoscopic repair (LR) offers: enhanced visualization, contralateral hernia diagnosis, minimal dissection, and improved cosmetic outcomes.
- Evidence from low- and middle-income countries

OBJECTIVE

To compare percutaneous needle-assisted extraperitoneal LR versus OR of indirect inguinal hernia at Hospital Escuela, Honduras.

METHODS

Design:	Prospective comparative quasi-experimental study
Setting:	Hospital Escuela, Honduras
Period:	March 2022 – January 2025
Sample:	n = 212 patients (106 OR / 106 LR)
Allocation:	Sequential alternating assignment
Follow-up:	1, 3 and 6 months
Statistics:	Mann-Whitney U, χ^2 /Fisher, adjusted multivariate regression (p < 0.05)

COMPARISON OF DEMOGRAPHIC, CLINICAL, AND SURGICAL CHARACTERISTICS IN GROUPS n = 212 patients 106 Open Repair (OR) vs 106 Laparoscopic Repair (LR)

Characteristic	OR n (%)	LR n (%)	p-value
Patients	106 (50.0)	106 (50.0)	—
Age, median months (IQR)	54 (12–96)	54 (12–96)	0.672
Sex			0.035*
Male	82 (77.4)	67 (63.2)	
Side of hernia			0.0004*
Bilateral	7 (6.6)	26 (24.5)	
Right	60 (56.6)	39 (36.8)	
Left	39 (36.8)	41 (38.7)	
Premature	8 (7.6)	23 (21.7)	0.001*
Hospital stay			0.873
Outpatient (<12 h)	99 (93.4)	101 (95.3)	
Operative time, median min (IQR)			0.006*
Median (IQR)	28 (25–40)	26 (25–30)	
Adjusted by regression (β)	Ref.	–5.61 min	<0.001*
Intraop. wall hematoma	0 (0.0)	3 (2.8)	0.246
Wound dehiscence (early)	3 (2.8)	0 (0.0)	0.246
Chronic pain	3 (2.8)	0 (0.0)	0.246
Overall recurrence (6 months)	10 (9.4)	4 (3.8)	0.165
Metachronous contralateral IIH (MC-IIH)	6 (5.7)	0 (0.0)	<0.01*
Asymptomatic contralateral IIH (AC-IIH)	0 (0.0)	16 (15.1)	<0.01*

KEY RESULTS

OPERATIVE TIME

OR
28 min
(25–40)

vs

LR
26 min
(25–30)

β = –5.61 min
IC95% –7.81 α –3.41 · p < 0.001 ·
R²=0.33

PREMATURITY & RECURRENCE

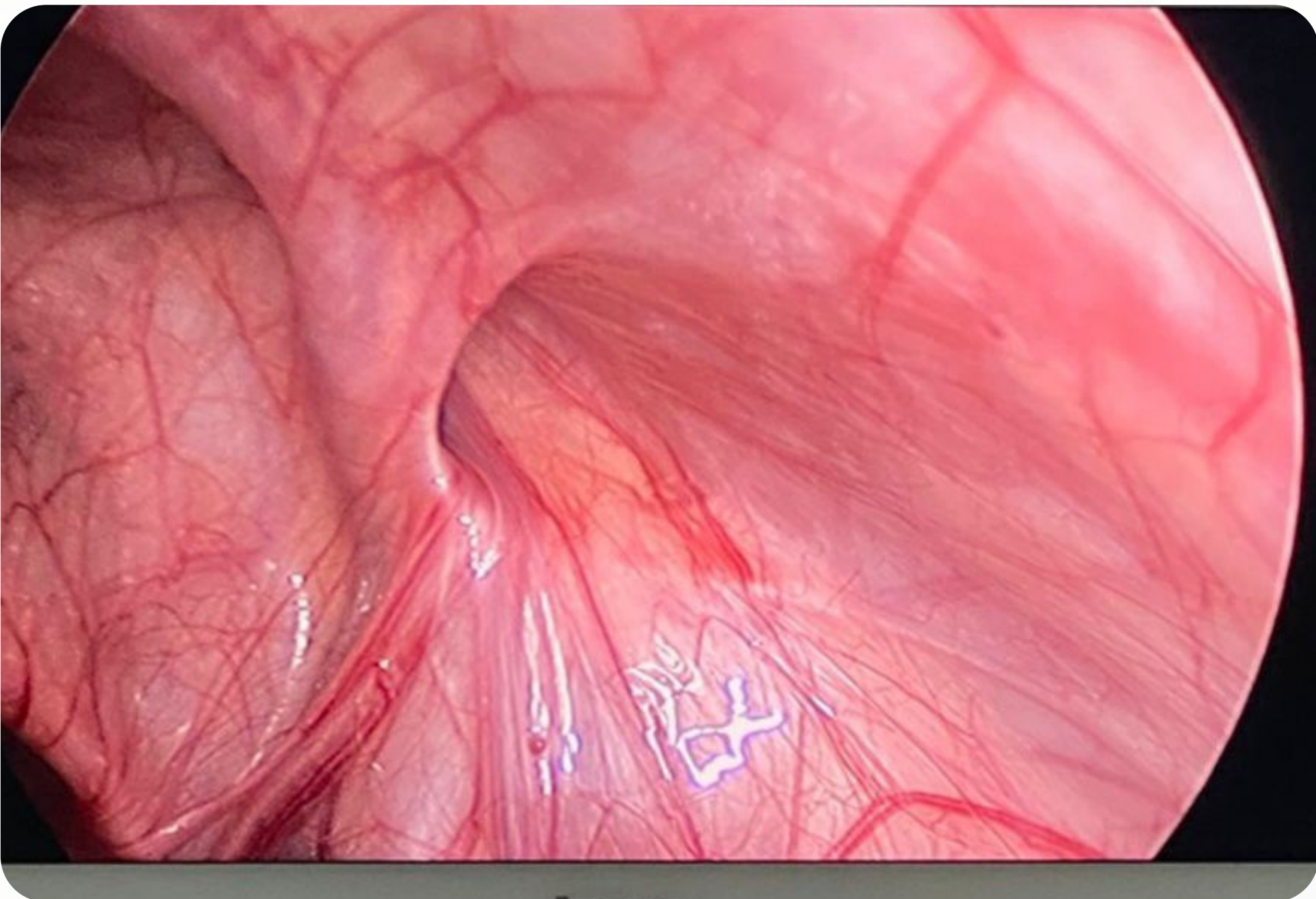
RR = 3.24
IC95% 1.16–9.02
p = 0.037
Premature infants: 3.24×
higher recurrence risk vs.
term

ASYMPTOMATIC CONTRALATERAL IIH

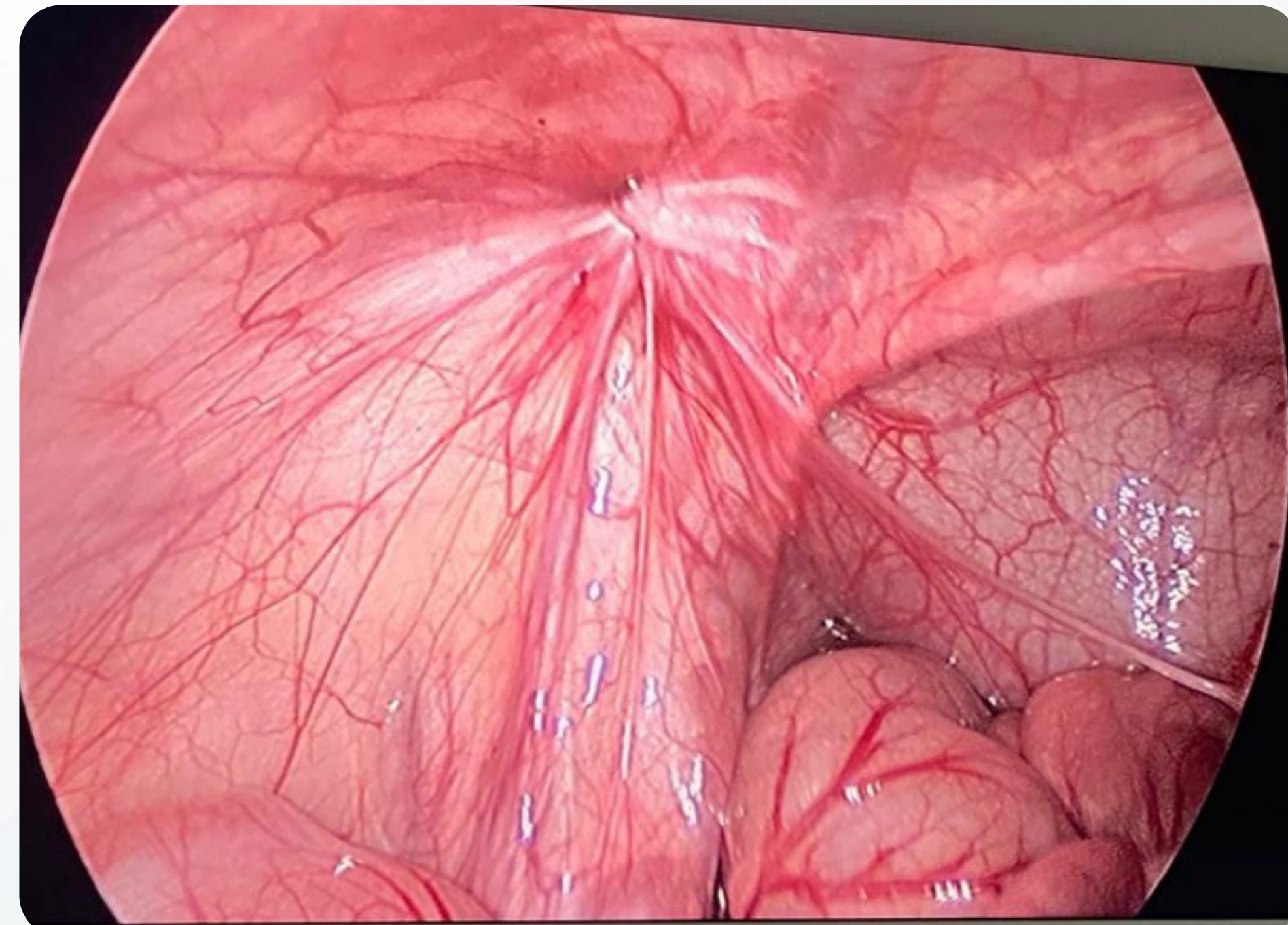
15.1%
of LR patients
16/106 detected
intraoperatively & repaired
in the same procedure.
OR: 0 cases (p < 0.01)

METACHRONOUS CONTRALATERAL IIH

RA 5.7% vs RL 0%
p < 0.01
LR eliminates MC-IIH



Right inguinal hernia



Repaired left inguinal hernia

CONCLUSIONS

- No significant differences in recurrence at 6 months were observed between laparoscopic and open repair.
- LR demonstrated an advantage in diagnosing asymptomatic contralateral IIH, allowing repair in the same surgical procedure.
- LR reduced operative time without increasing complications.

* p < 0.05 statistically significant. χ^2 or Fisher's exact test as appropriate. IC95% –7.81 to –3.41 for operative time β . Adjusted R² = 0.33. IQR: interquartile range.