

# Inguinal Hernia in Newborns – Can you predict the best treatment path?

Silviana Ribeiro (1), Carolina Soares-Aquino (1), Leonor Carmo (1), José Miguel Campos (1), Henrique Soares (2), Mariana Dias (1)

(1) Pediatric Surgery Department, Unidade Local De Saúde São João, Porto, Portugal

(2) Neonatal Intensive Care Unit, Unidade Local De Saúde São João, Porto, Portugal

## Introduction

Inguinal hernia is a **common condition** requiring surgical repair in children.

In **preterm (PT) infants**, the incidence can reach 20%, mostly due to **birth before embryological closure of the processus vaginalis**.

Despite a frequently performed procedure, the **ideal approach and surgical timing remain uncertain**, reflected by significant variation in practice and anaesthesia-related concerns.

## Aim

To evaluate **predicting factors** of **optimal inguinal hernia repair (IHR)** timing and **outcome**.

## Methods

**Retrospective** analysis of neonates and PT diagnosed with inguinal hernia during neonatal intensive care unit (NICU) admission, **over 14 years**.

Exclusion criteria: incomplete data or evaluation not conducted by a pediatric surgeon.

### Variables collected:

- Gestational age
- Sex
- Congenital anomalies
- Age at diagnosis
- Symptoms at diagnosis
- Laterality
- Ultrasound use
- Surgery timing (NICU/post-NICU)
- Simultaneous procedures
- Spontaneous resolution
- Outcomes

## Results

**70** patients

5 lost to follow-up

84% Male



29 weeks  
Median Gest. Age



46%  
Congenital Anomalies



46.5 Days  
Median Diagnosis

60% Ultrassound

73%  
Surgical Repair

33 NICU

19 Post- NICU

13 patients Spontaneous Resolution  
92% → 12 patients Pre-Term

### NICU Vs. Post NICU Repair

- Similar Contralateral repair rates ( $p > .05$ )
- No clinical variables** were **predictors** of **timing of surgery** ( $p > .05$ )
- When combining adverse results (**surgical complication and recurrence**) **more frequent in NICU repair** ( $p=0.0208$ )

## Conclusion

**No clear predictors** guide **timing of IHR** in newborns.

While prompt repair is often necessary, it may carry not only higher anaesthesiologic risk but also **adverse surgical outcomes**. Spontaneous resolution should not be overlooked in selected cases, especially in PT infants.