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The Use of Indocyanine Green Fluorescence In The Evaluation of Ovarian Paranchyma in Prenatal Diagnosed Neonatal Ovarian Cyts: Report of a Case

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Introduction

- Most prenatally diagnosed **neonatal ovarian cysts (NOC)** may resolve spontaneously, whereas others with torsion require early surgical intervention.
- Intraoperative assessment of **ovarian viability** is challenging.
- Recently**, indocyanine green (ICG) fluorescence imaging** has emerged as a promising technique to objectively evaluate tissue perfusion and guide surgical decision-making.
- **Aim** is to discuss the use of ICG in the evaluation of ovarian parenchyma in infants.

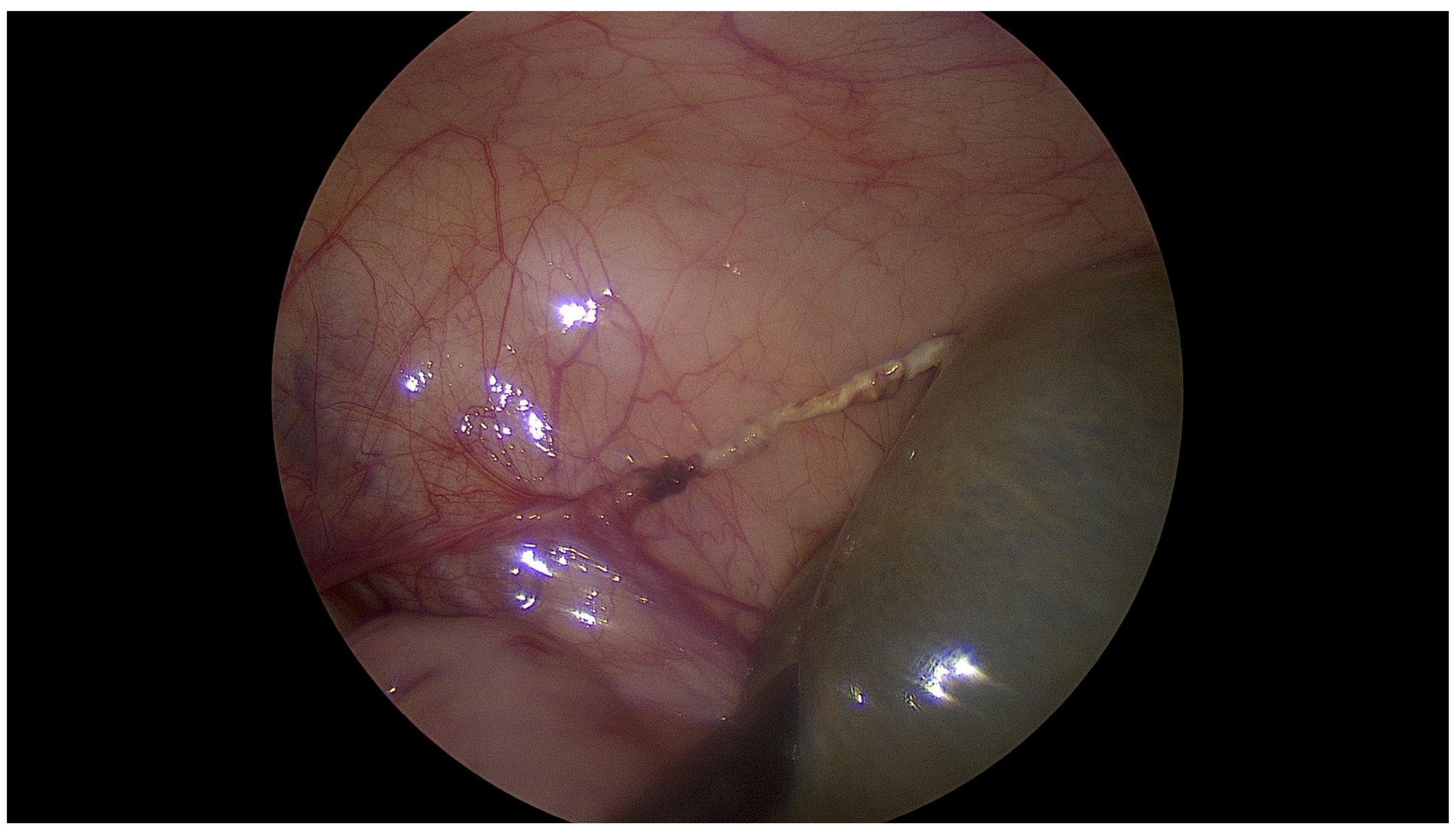

Figure 1: Initial laparoscopic view

Multiple torsions of the right ovary and fallopian tube

ICG Fluorescence Imaging:

- After intravenous administration of ICG, near-infrared imaging demonstrated absent perfusion in the *entire* right ovary.
- No preserved ovarian parenchyma was visible.
- The left ovary showed normal vascularity.

✓ **Procedure:** Based on the objective ICG findings, a right salpingo-oophorectomy was performed.

Case report

- A **five-month-old female** with a **right adnexal cystic lesion**
- **Postnatal US:**

  A 54x60x45 mm septated cyst in the right adnexal region.

  The right ovary was not visualized separately from the cyst.
- **ICG-guided Laparoscopic exploration**

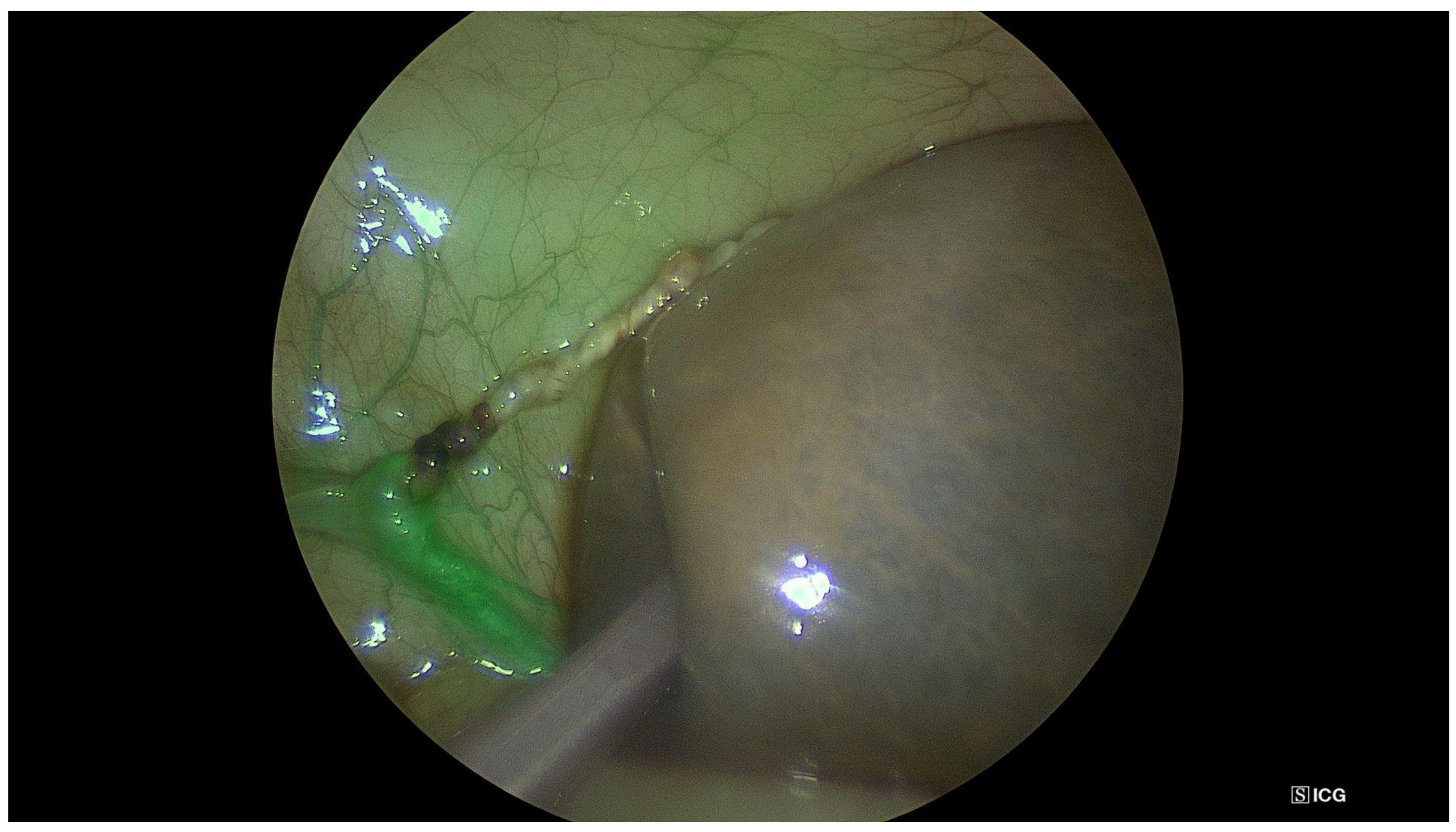

Figure 2: ICG fluorescence imaging demonstrating absent perfusion in the right ovary.

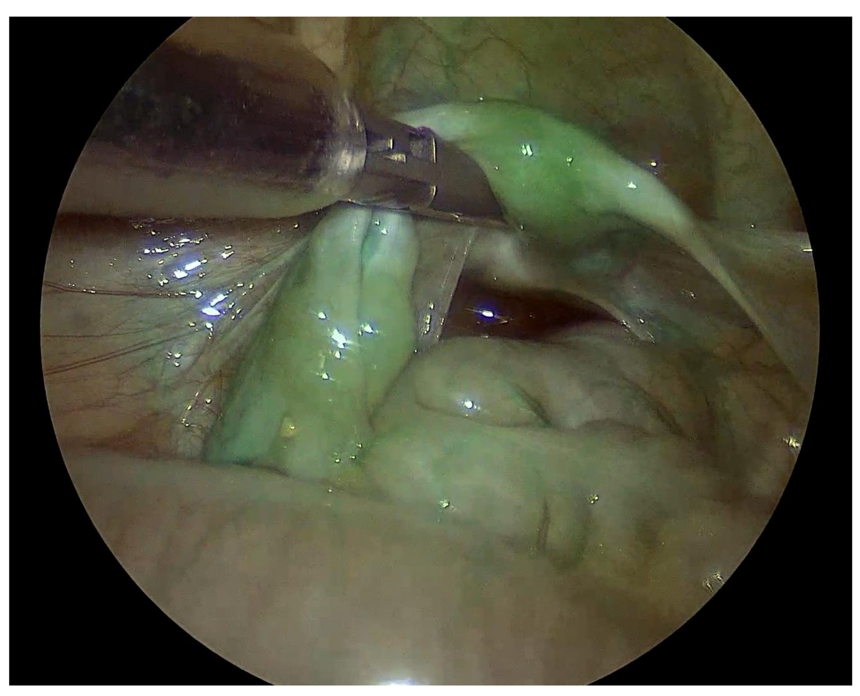

Figure 3: ICG fluorescence imaging showing normal perfusion in the healthy left ovary.

Conclusion

- This case highlights the feasibility and reliability of **intraoperative ICG fluorescence imaging** for assessing ovarian perfusion in NOC.
- The objective vascular assessment facilitated a confident surgical decision and potentially avoided a futile **organ-preserving attempt**.
- Broader implementation of ICG technology, particularly in infants and young children, may **enhance fertility-preserving strategies** in emergency gynecologic surgery.