

Elective Gynaecological Laparoscopy: Rethinking Blood Loss, Risk, and Resource Optimisation

Authors: Dr Wan Idoracaera Calisa binti Ikhwan, Miss Evangelia Bakali

Background

Elective gynaecological laparoscopy is a key component of minimally invasive surgery, providing benefits such as reduced postoperative pain, shorter hospital stays, and faster recovery compared to open procedures. The Royal College of Obstetricians and Gynaecologists (RCOG) underscores the importance of tailoring preoperative planning to individual patient risk profiles, while the National Institute for Health and Care Excellence (NICE) advocates for cost-effective use of resources.

Despite the low risk of significant haemorrhage in laparoscopic procedures, routine Group & Save (G&S) testing is often performed, incurring costs without clear evidence of necessity.

Objective

This study aimed to evaluate perioperative blood loss, the use of Group & Save (G&S) testing, cross-matching, transfusion requirements, and complications in elective gynaecological laparoscopy. Additionally, it explored the potential for cost savings by considering a more selective, risk-based approach to G&S testing, in alignment with RCOG and NICE recommendations for individualised and cost-effective care

Design

A retrospective cohort analysis was conducted to examine perioperative outcomes and resource utilisation in elective gynaecological laparoscopy. The study sought to identify patterns in G&S testing and assess its clinical and economic implications, while maintaining patient safety as the primary consideration.

Method

Data were retrospectively reviewed for 410 patients who underwent elective gynaecological laparoscopy at University Hospitals Birmingham between October 2021 and September 2022. After excluding cases involving total laparoscopic hysterectomy and staging procedures, 225 cases were analysed. The procedures included diagnostic laparoscopy, ovarian cystectomy, treatment of endometriosis, sterilisation, adhesiolysis, and others. Information on perioperative blood loss, G&S utilisation, cross-matching, transfusion rates, and complications was extracted.

Results

- Blood Loss:** Most cases (86%) experienced blood loss <50 mL, with 54% reporting <20 mL. Blood loss ≥100 mL occurred in 4%. (Figure 1)
- Group & Save Utilization:** G&S tests were sent for 66.22% of cases: 36.00% had 1 sample, 26.67% had 2 samples, and 3.56% had 3 samples. (Figure 2)
- Cross-Matching and Transfusion:** Cross-matching was performed in 0.44% of cases (1/225), and no transfusions were reported in this cohort. (Figure 3, 4)
- Co-Morbidities and Complications:** Among G&S-tested patients:
 - 1 sample: 7.41% had co-morbidities, including severe endometriosis, large ovarian cysts, or return to the theatre.
 - 2 samples: 13.33% had co-morbidities such as advanced endometriosis, retroperitoneal cysts, or antibodies.
 - 3 samples: 25.00% had co-morbidities, including preoperative anemia or extensive pelvic adhesions.

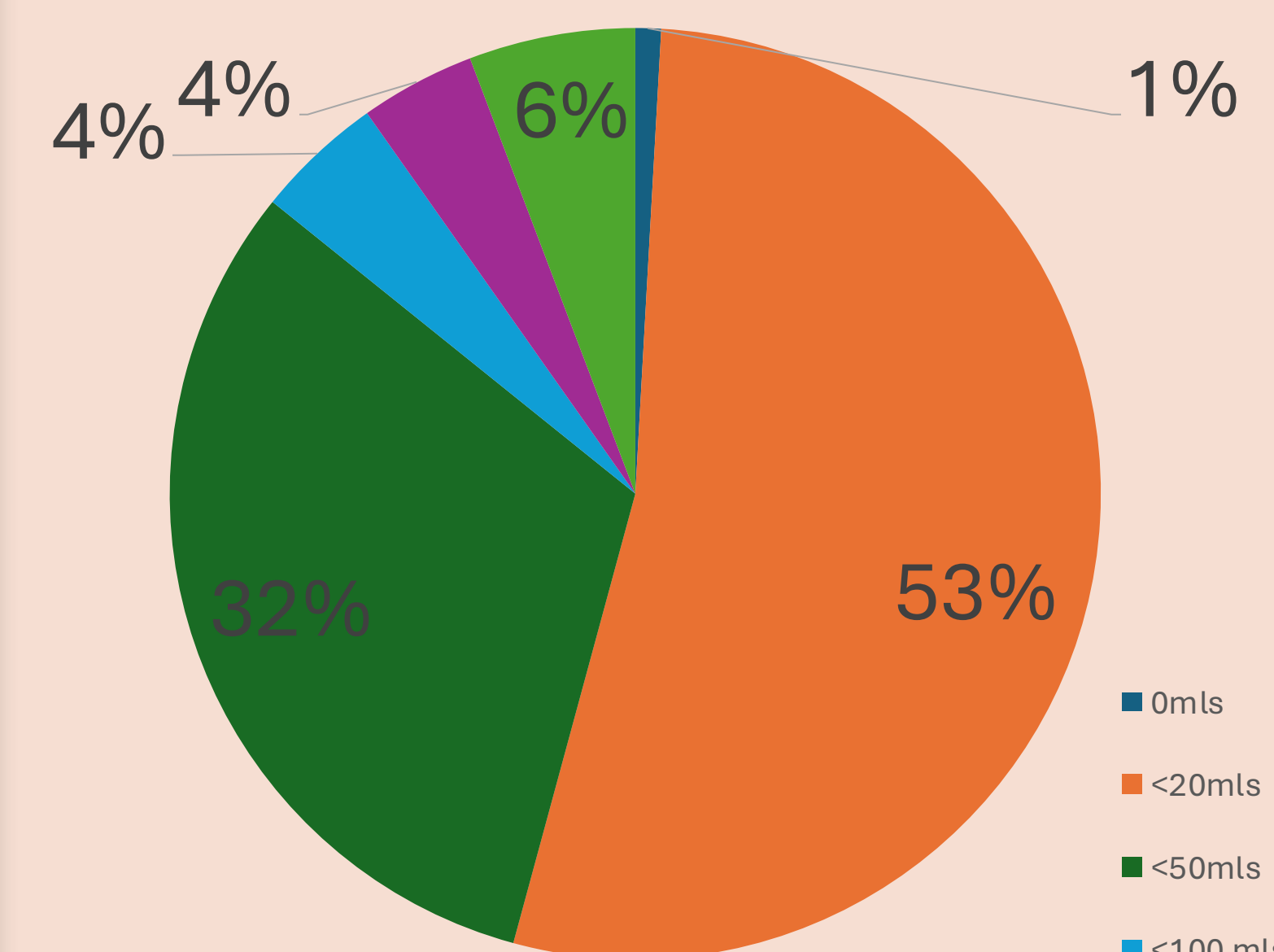


Figure 1. Blood Loss

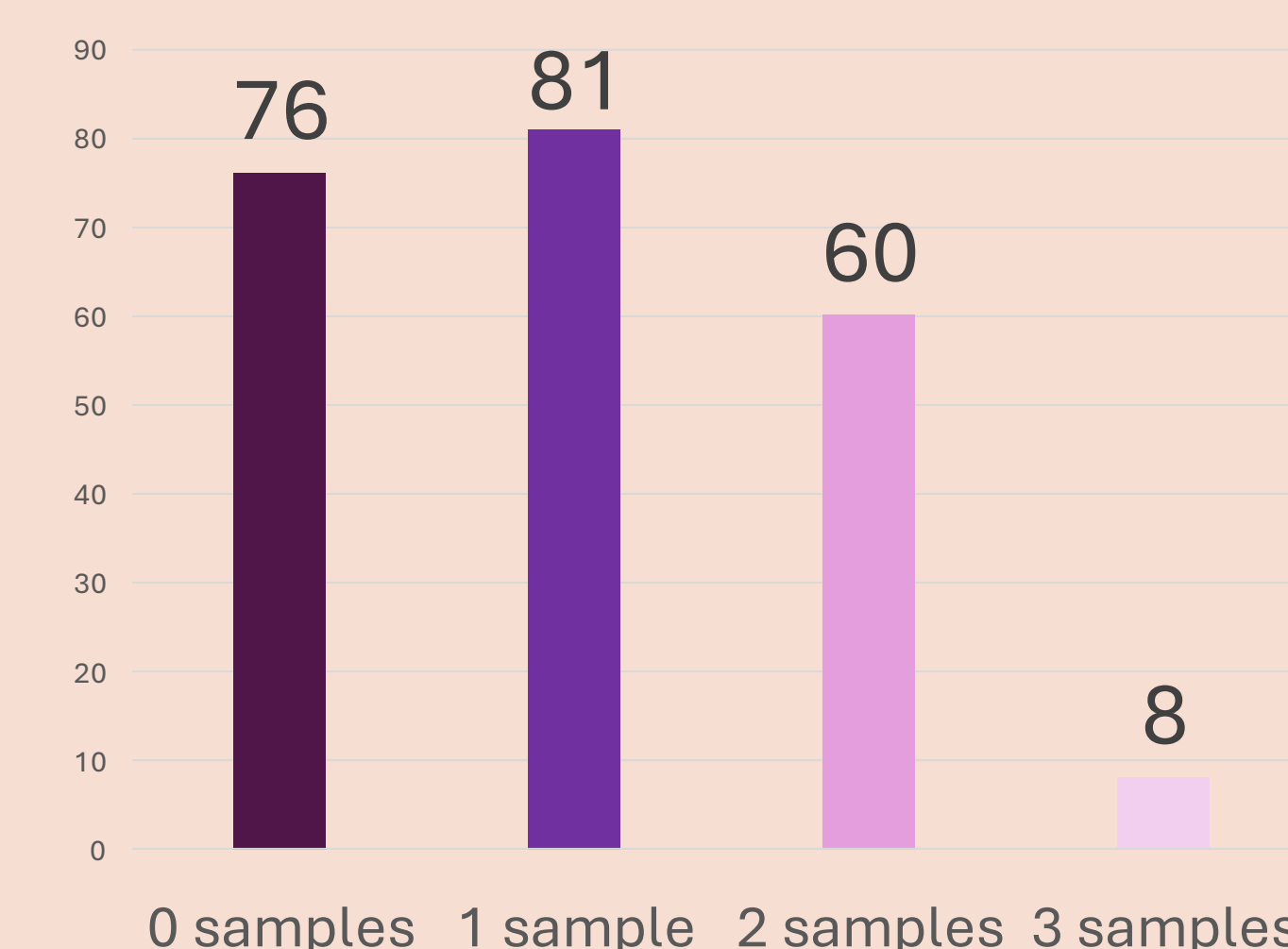


Figure 2. Number of Group & Save samples Taken

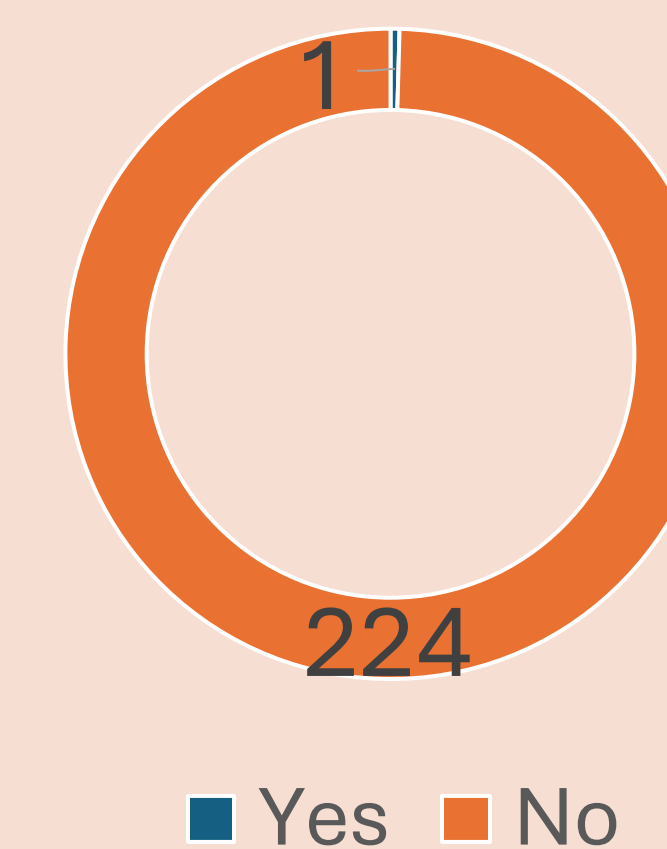


Figure 3. CrossMatch

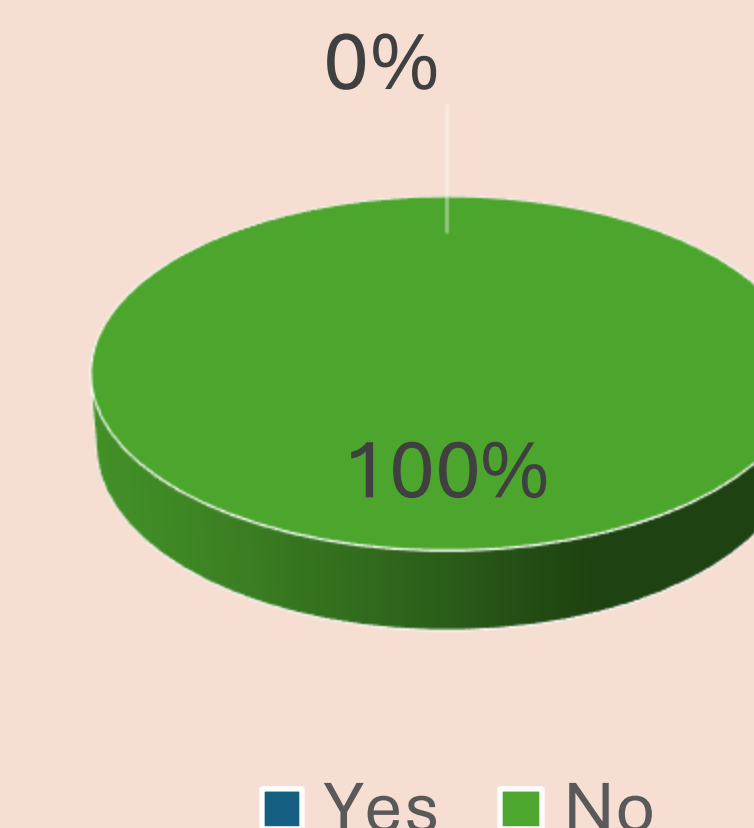


Figure 4. Blood Transfusion Given?

Cost Implications

The cost of a G&S test on the NHS is approximately £27. In this study, 149 patients underwent G&S testing, resulting in a total expenditure of approximately £4,023. Given that no transfusions were required in this cohort, the data suggest that routine G&S testing may not be necessary in low-risk cases. A more selective approach to preoperative G&S testing, targeted toward patients with higher surgical complexity or co-morbidities, could result in substantial cost savings while maintaining safety.

Conclusions

This cohort demonstrated minimal blood loss and no transfusion requirements in elective gynaecological laparoscopy, suggesting that routine G&S testing may not always be necessary in low-risk cases. However, these findings should be interpreted with caution, as patient safety must remain the foremost priority. A more selective approach to G&S testing, tailored to patient risk factors, could potentially reduce costs without compromising care. Future prospective studies with larger sample sizes are recommended to validate these findings and guide the development of evidence-based protocols for preoperative testing.