

Clinical Profile, Indications and Findings of Emergency Exploratory Laparotomies in a Teaching Hospital in Nigeria: A Retrospective Review for Policy and Practice

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ABSTRACT

Background: Emergency exploratory laparotomy entails abdominal procedure done for the purpose of making diagnosis of an acute intraabdominal condition requiring immediate surgical intervention. The procedure is associated with significant morbidity and mortality, particularly in developing countries like ours, due to its emergent nature, delayed presentation, and limited time for perioperative correction of deranged parameters and optimization of patients before surgery. Knowledge of clinical profile, indications and intra-operative findings is crucial for improving perioperative care and patient survival, especially in teaching hospitals where these very sick patients presents to.

The study aimed to highlight the clinical profile, indications and findings of emergency exploratory laparotomies in a teaching hospital in Nigeria.

Method: This three-year tertiary hospital-based observational study of emergency exploratory laparotomies performed at the University of Benin Teaching Hospital (UBTH), Nigeria from 2023-2025. A total of 104 patients presenting with acute abdominal conditions requiring emergency surgical intervention were recruited in the study. Data were obtained from patients' hospital record included patients' demographic characteristics, clinical presentations, indications and intraoperative findings.

Results: A total of 104 patients underwent emergency exploratory laparotomy with male preponderance of 60.6%. The most common age group who had emergency exploratory laparotomy were <10years (18.3%), followed by that of 40-49years (15.4%) while the least was 80-89years old age group which accounted for 2.9%. 100 patients (96%) presented with abdominal pain, 98 (94.2%) had abdominal tenderness/guarding while bilious vomiting was noted in 68(65.4%) patients who had emergency exploratory laparotomy. Intra-operative findings of emergency exploratory laparotomy should high incidence of Acute mechanical intestinal obstruction 51 (49.1%) and peritonitis from perforated viscera 43(41.3%) while negative emergency exploratory was 4 (3.8%).

Conclusion: Emergency exploratory laparotomy entails urgent surgical intervention to diagnose and treat patient with acute abdomen. The paediatric age group constituted the highest number of cases, Majority of the patients presented with abdominal pain and tenderness and acute mechanical intestinal obstruction accounted for the most common indication and intra-operative findings of emergency exploratory laparotomy.

KEYWORDS: Emergency exploratory laparotomy, Policy, practice, retrospective review

ARTICLE DETAILS

Published On:
27 August 2026

Available on:
<https://ijmscrs.com>

INTRODUCTION

Emergency exploratory laparotomy is a surgical procedure performed to diagnose and treat patients with acute

abdominal conditions requiring urgent surgical intervention. It is associated with significantly higher rates of postoperative morbidity and mortality than for elective abdominal surgeries

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particularly in low- and middle-income countries like ours, because of the late presentation and short duration of perioperative care prior to surgery.^{1, 2, and 3}

Common postoperative complications include surgical site infection, wound dehiscence, pneumonia, sepsis, anastomotic leakage, intra-abdominal abscess formation, acute kidney injury, respiratory failure, and multi-organ dysfunction syndrome.²

The National Emergency Laparotomy Audit (2023) reported that advanced age, delayed surgery and severe physiological derangement significantly increased the risk of mortality after emergency laparotomy. Hence the need for timely surgical intervention and adequate perioperative care.³

Successful management of patients undergoing emergency exploratory laparotomy begins with prompt clinical assessment and adequate resuscitation. Patients commonly present with severe abdominal pain, abdominal distension, vomiting, constipation, fever, abdominal tenderness/guarding, dehydration, tachycardia and hypotension.⁴

Preoperative assessment involves detailed history taking, physical examination, laboratory investigations, and radiological imaging such as plain abdominal xray and abdominopelvic ultrasound scan.⁵ The anaesthetic assessment focuses on airway evaluation, cardiovascular

status, respiratory function, fluid balance, electrolyte abnormalities, and estimation of the American Society of Anesthesiologists (ASA) physical status classification, which helps predict perioperative risk.⁶

METHOD

This three-year tertiary hospital-based observational study of emergency exploratory laparotomies performed at the University of Benin Teaching Hospital (UBTH), Nigeria from 2023-2025. All consecutive patients presenting with acute abdominal conditions requiring emergency surgical intervention were considered eligible. Patients with incomplete or missing medical records and those whose case files could not be retrieved were excluded. A total of 104 patients were recruited in the study including both gender and all age groups. Procedures were performed in accordance with the institution's standard surgical protocols. Data were obtained from patients' case notes, theatre registers and operation records included patients' demographic characteristics, clinical presentations, and intraoperative findings and were analyzed using the Statistical Package for the Social Sciences (SPSS) version 27.0.

Ethical Consideration: Ethical approval was obtained from the Hospital Health Research Ethics Committee.

RESULTS

Table 1: Distribution of Respondents by Sex

Sex	Frequency	Percent %
Female	41	39.4
Male	63	60.6
Total	104	100.0

A total of 104 patients underwent emergency exploratory laparotomy, 63 (60.6%) were males and 41 (39.4%) were females.

Table 2: Age distribution

Age (years)	Frequency	Percentage (%)
<10	19	18.3%
10-19	10	9.6%
20-29	11	10.6%
30-39	15	14.4%
40-49	16	15.4%
50-59	13	12.5%
60-69	11	10.6%
70-79	6	5.8%
80-89	3	2.9%
Total	104	100%

Table 3: Showing clinical presentation

Clinical Presentation	Frequency	Percentage (%)
Abdominal Pain	100	96%
Bilious Vomiting	68	65.4%

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Change in bowel motion (Constipation/Diarrhea)	79	76.9%
Abdominal Distension	96	92.3%
Abdominal Tenderness/Guarding	98	94.2%

Table 4: showing intraoperative findings

Intraoperative findings	Frequency	Percentage
Perforated viscous	43	41.3%
Complicated appendicitis	25	
Perforated Duodenal ulcer	12	
Typhoid ileal perforation	3	
Gastric perforation	3	
Acute intestinal obstruction	51	49.1%
Intussusception	9	
Adhesive small bowel obstruction	19	
Obstruction from Large bowel tumor	11	
Strangulated hernia (umbilical + groin)	7	
Sigmoid volvulus	5	
Visceral injuries from blunt abdominal trauma	6	5.8%
Negative laparotomy	4	3.8%
Total	104	100%

DISCUSSION

There was male predominance among patients undergoing emergency exploratory laparotomy as seen in table 1, just as in a sub-Sahara African study.⁷ Though, the National Emergency Laparotomy Audit (2023) reported that advanced age undergoing emergency laparotomy increases postoperative outcome, this study reported higher cases of emergency exploratory laparotomy in children, followed by the 40-49 years old age group (table 2).

Emergency exploratory laparotomy is indicated when there are suspected acute abdominal symptoms and signs like bilious vomiting, abdominal pain/tenderness/guarding, abdominal distension as well as change in bowel motion in favor of diarrhea or constipation requiring immediate surgical intervention as depicted in table 3. Common preoperative indications and intra operative findings in table 4 were acute intestinal obstruction, generalized peritonitis from perforated hollow visceral and abdominal trauma similar to other studies.^{1,7}

The emergency nature of the procedure, delayed presentation, underlying sepsis, and limited time for preoperative optimization contribute significantly to adverse outcomes. Understanding the local pattern of indications and outcomes is essential for improving perioperative care and patient survival, particularly in tertiary care hospitals where critically ill patients are frequently managed.⁸ The NELA risk model can help clinicians identify patients who would benefit from early consultant involvement, more aggressive resuscitation, damage-control approaches or planned postoperative intensive monitoring.⁹

CONCLUSION

Emergency exploratory laparotomy entails urgent surgical intervention to diagnose and treat patient with acute abdomen. The paediatric age group constituted the highest number of cases, Majority of the patients presented with abdominal pain and tenderness and acute mechanical intestinal obstruction accounted for the most common indication and intra-operative findings of emergency exploratory laparotomy. We therefore recommend standardized targeted perioperative care in these high risk abdominal surgeries.

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