

Clinical Science

Repeat laparotomy in a developing world tertiary level surgical service



Matthias F. Scriba, M.B.Ch.B., Grant L. Laing, F.C.S.(SA),
John L. Bruce, F.C.S.(SA), Damian L. Clarke, F.C.S., M.Med.Sci.*

Department of Surgery, Pietermaritzburg Hospital Complex, University of KwaZulu Natal, Townbush Road, Pietermaritzburg, KwaZulu-Natal, South Africa

KEYWORDS:

Relaparotomy;
Developing world;
Outcomes

Abstract

BACKGROUND: Repeat laparotomy is associated with significant morbidity and mortality; however, developing world data are scarce. This study reviews the spectrum and outcomes of relaparotomy in a developing world setting.

METHODS: Prospectively collected data from adult patients needing repeat laparotomy over an 18-month period were analyzed.

RESULTS: Relaparotomy rate was 24% and average age was 38 years with a male predominance (70%). Appendicitis and trauma were the most common diagnoses. Planned relaparotomy rate was high (41%); however, negative relaparotomy rate was only 9%. Need for intensive care unit admission (51%) and morbidity rate (64%) were both high, but overall mortality rate was 14%. Patients requiring multiple relaparotomies had further worsened outcomes.

CONCLUSIONS: The need for repeat laparotomy in the developing world is high and it is associated with significant morbidity and need for intensive care unit admission. However, mortality rates and negative repeat laparotomy rates were low.

© 2015 Elsevier Inc. All rights reserved.

The need for repeat laparotomy, or relaparotomy, following an initial procedure is associated with increased morbidity and mortality.¹⁻⁶ The index pathologies associated with repeat laparotomy are multiple, but ongoing intra-abdominal sepsis remains the most common reason for repeat laparotomy. The current body of literature on the topic comes almost exclusively from developed countries. In the developing world, intra-abdominal sepsis is associated with delayed presentation and delayed surgery,

and is thus likely to have severe intra-abdominal sepsis at initial operation.^{7,8} Access to postoperative intensive care is also more restricted in the developing world.⁹ This study thus aims to review the spectrum and outcomes of repeat laparotomy in a developing world setting.

Patients and Methods

This study was conducted over an 18-month study period (December 2012 to May 2014) at Greys Hospital in Pietermaritzburg, South Africa. Greys Hospital is a tertiary hospital that serves the city of Pietermaritzburg and the western third of KwaZulu-Natal Province. It serves a population of 3 million people and covers a large rural area. The rural districts served by the Pietermaritzburg Complex all score highly on social indicators of poverty

The authors declare no conflicts of interest.

* Corresponding author. Tel.: +27-73-058-9034; fax: +27-31-2604389.

E-mail address: damianclar@gmail.com

Manuscript received November 13, 2014; revised manuscript March 2, 2015

and unemployment and fulfill most definitions of developing world areas. All surgical patients at Greys Hospital have admission, discharge, and operative data prospectively entered into a computerized electronic registry, the Hybrid Medical Electronic Registry. Ethics approval to maintain this registry has been obtained from the Biomedical Research Ethics Committee (BCA221/13 BREC) of the University of KwaZulu-Natal and from the Research Unit of the Department of Health.¹⁰ Full ethical approval for the study was granted by the University of KwaZulu-Natal Biomedical Research Ethics Committee (BE047/14).

All patients aged 13 years and older who needed at least one relaparotomy were included in the study. This included both general surgical and trauma patients. Outcomes from adult patients who underwent only a single laparotomy were used as a denominator for comparison. Data were exported from the registry into a commercially available spreadsheet application (Microsoft Excel) and retrospectively analyzed using basic statistical analyses. Analysis of the data included the following aspects: demographics, underlying diagnoses, and outcomes—specifically looking at the need for admission to the intensive care unit or high care unit (ICU/HCU) and significant documented morbidity and mortality rates. Outcomes for the single laparotomy cohort were compared with those in the repeat laparotomy group and the multiple repeat laparotomy groups.

Results

Overview

During the 18-month study period, a total of 1,189 laparotomies were performed on 902 patients. Of these patients, 188 (21%) subsequently required a total number of 287 repeat laparotomies. This translates into a repeat laparotomy rate of 24%. Men accounted for 70% (131) and women for 30% (57), with an average age of 38 years. Nontrauma patients accounted for 72% (136) of the cohort, while trauma patients accounted for 28% (52). [Table 1](#) documents the most common index pathologies in the patients who required a

Table 1 Underlying diagnoses necessitating relaparotomy

Most common index diagnoses requiring repeat laparotomy	Incidence, n (%)
Nontrauma (n = 136)	
Appendicitis	47 (35)
Malignancy	20 (15)
Peptic ulcer disease	18 (13)
Hernia	9 (7)
Other	42 (31)
Trauma (n = 52)	
Stab abdomen	20 (38.5)
GSW abdomen	20 (38.5)
Blunt abdominal trauma	12 (23)

GAW = guns shot wound abdomen.

Table 2 Findings and therapeutic interventions performed at relaparotomy, excluding preceding damage control laparotomies

Findings/Interventions (n = 253)	Incidence, n (%)
Residual sepsis ablation	100 (40)
Abdominal closure	32 (13)
Unclear significant findings (turbid/serosanguinous fluid)	45 (18)
Nil—clean abdomen	23 (9)
Other therapeutic interventions	53 (21)
Evacuation of blood/bile	14 (6)
Definitive procedure or resection	11 (4)
Necrotic bowel/tissue excision	10 (4)
Bowel evisceration addressed	7 (3)
Bowel obstruction released	5 (2)
Other	6 (2)

repeat laparotomy. Appendicitis was the most common pathology requiring relaparotomy in this group.

The majority of patients requiring repeat laparotomy had the index operation as an emergency procedure (85%; 160 patients), with 16% (34 patients) having index damage control surgery. The indications for repeat laparotomy were initial damage control surgery in 16% (34), temporary abdominal closure (TAC) in 28% (54), and complications following elective surgery in 11% (20). In 7 patients, the details of the index laparotomy were unclear, as the operation had either been performed by another department or at another institution. In the remaining 44% (83), the indications for repeat laparotomy were incompletely treated intra-abdominal sepsis. Of the total cohort of patients requiring repeat laparotomy, 65% required only a single relaparotomy, while the remainder required multiple repeat laparotomies. Two patients needed a total of 6 repeat laparotomies each. In both, the index pathology was acute appendicitis and both patients survived. Planned repeat laparotomies accounted for 41% (119) and unplanned repeat laparotomies for 56% (161) of the cases. In patients subsequently requiring repeat laparotomy, rates of TAC at initial laparotomy were 41% (78). At the time of hospital discharge or death, 27% (51) still had an open abdomen. Of these 51 patients, 61% had required multiple relaparotomies and 33% (17) had died. The average time from initial laparotomy to first relaparotomy was 89 hours.

Findings at repeat laparotomy

Of the 287 repeat laparotomies included in the study, 34 operations were performed for damage control surgery at the index laparotomy. Of the remaining 253 repeat laparotomies, 40% (100) had residual sepsis at repeat laparotomy. A further 21% (55) underwent a therapeutic intervention at the repeat laparotomy ([Table 2](#)). Thirteen percent (32) had no major intra-abdominal findings at repeat laparotomy, but underwent definitive abdominal closure. Of the remaining patients, 18%

Download English Version:

<https://daneshyari.com/en/article/4278335>

Download Persian Version:

<https://daneshyari.com/article/4278335>

[Daneshyari.com](https://daneshyari.com)