

## Complications of Abdominal Surgery, Study Carried Out in the Eastern Region of the Democratic Republic of the Congo

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### ABSTRACT

**Background:** In some regions like ours, the complications from abdominal surgery are important indicators of the quality of surgical care, particularly in general surgery. The objective of our work is to study the complications of abdominal surgery.

**Methods:** This is a retrospective and descriptive study carried out in the general surgery Department of the Skyborn Hospital Center, over a period of 5 years, period from March 2016 to April 2021, with a total of 286 patients.

**Results:** A total of 286 patients having participated in our study, we found that the male sex occupies 186 cases, the age group of the age group between 21 and 40 years occupies the first place, the cesarean with 42% was the first the surgical history, the surgical site infection and wound infection was the first postoperative complications with 64%. 91.6% of patients left the hospital without any particularity and 75.4% of patients received surgical treatment for the management of complications.

**Conclusion:** The delay in the management or non-prevention of complications is an important factor in the occurrence of complications from abdominal surgery. Good postoperative management of the operative site and the surgical wound can prevent and avoid complications of abdominal surgery.

### Keywords:

Abdominal surgery, Postoperative complication, Surgical complication

### Abbreviations:

SSI: Surgical Site Infections, WI: Wound Infection.

### Introduction

Nowdays, more and more patients undergo abdominal surgery during their lifetime, due to the advancement of surgical technology [1,2]. The number of surgeries performed worldwide is estimated at hundreds of millions per year [3,4]. Despite the development of surgical and anesthetic techniques, and the perioperative management of patients, postoperative complications remain a major cause of postoperative complications [3]. The morbidity and mortality remain a heavy economic burden in the health system [3,5].

In addition, perioperative complications negatively affect the quality of life of patients and may delay or prevent further treatment. Therefore, preventing complications is of particular importance. Identification of predictive factors of complications is critical for several reasons. Above all, it allows a precise strategy of risks to be taken and therefore an adequate planning of perioperative management. In addition, modifiable factors could become the target of tailor-made interventions aimed at reduce postoperative complications [6].

Previous abdominal surgery increases the complexity and morbidity of abdominal surgeries, due to the frequent presence of postoperative intra-abdominal adhesions [7,8]. Adhesions

may necessitate adhesiolysis, which is time consuming and results in full-thickness or seromuscular bowel injury in one-third of the patients [1,7].

Open abdominal surgery comes after the hernia starting from the frequency of complications of the surgery [9]. Surgical site infections are among the most common complications [10]. The evisceration and intestinal obstruction are also complications found in abdominal surgeries. The majority of abdominopelvic viscera surgery still have complications that are severe or mild, which we will have to determine.

The aim of this study is to analyze the complications abdominal surgery and identify postoperative complications, surgical history and describe the course and management of these complications.

### Methods

This study was developed at the Skyborn Hospital Center in Bukavu (a private located in the province of South Kivu, in the east of the Democratic Republic of Congo).

This is a study retrospective and descriptive on the cases of complications of abdominal surgery Skyborn Hospital Center over a period of 5 years, i.e. the period from March 2016 to April 2021.

Our study took as support the registers, medical files, and reports operations of patients who have undergone surgical treatment in the Surgical Department of Skyborn Hospital Center. We have established a template for the collection of data contained in the records of these patients.

Before our field investigation, we obtained authorization from

the health authorities of Skyborn Hospital Center in Bukavu. We have ensured confidentiality in the processing of data.

Data was collected Using, Google form, Organized on the Google spread sheet and analysis was conducted using SPSS Version 20 Data Analysis Program.

### Results

A total of 286 patients participated in the study on complications of abdominal surgery.

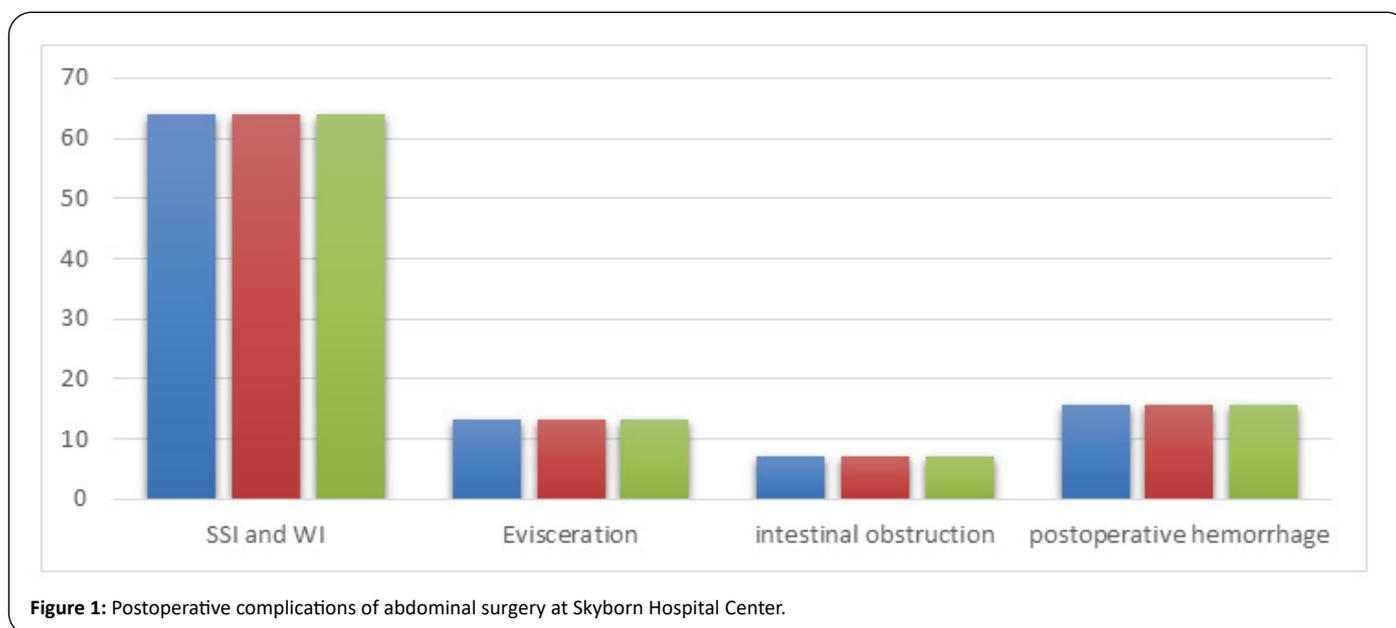
According to sex, we found that the female sex takes 183 cases and the male sex 103, starting from age, the age group between 21 to 40 years old occupies the first place followed by the group located between 0 to 20 years with 12.2% and the group located beyond 41 years with 9.8%.

For the surgical history, we observe that the cesarean occupies the primature with 42% followed by myomectomy and others which are represented in the table (Table 1).

**Table 1:** Surgical history at Skyborn Hospital Center.

Surgical history	Frequency	%
Appendectomy	49	17
Cesarean	120	42
Hernia treatment	9	3.1
Laparotomy	34	12
Myomectomy	57	20
Intestinal obstruction	11	3.8
Others	6	2.1
Total	286	100

Concerning postoperative complications of abdominal surgery, which are represented in the Figure 1, Surgical Site Infections (SSI) and Wound Infection (WI) occupies a large place with 64% followed by postoperative hemorrhage 15.8%, evisceration 13.2% and intestinal obstruction 7%.



**Figure 1:** Postoperative complications of abdominal surgery at Skyborn Hospital Center.

Based on the evolution, we noted that the majority of patients left the hospital with a cure without sequelae or particularities, i.e. 91.6% followed by patients who left with a cure with 2.5% sequelae and unfortunately others died 5.9%.

For the management of complications from abdominal surgery, surgical treatment was the first resort with 75.4% followed by medical treatment with 24.6%.

### Discussion

All surgical procedures are associated with one complication or the other in varying degrees, from as little as mild uncomplicated scar, hemorrhagic complications or even death. This may be based on factors such as complexity of the procedure or even the surgeons' skills. In our study, we evaluated these complications in respect to abdominal repair surgeries.

This study took place in the Skyborn hospital center in the city of Bukavu, in the Democratic Republic of the Congo, for a period from March 2016 to April 2021. Study based on the complications of abdominal surgery.

From the results, we discovered that the majority of abdominal

surgeries are always complicated and patients prolong their stay in the hospital because of these complications that appear, abdominal surgeries present a large majority of the risk of complications, which leads us to say that surgeries of the abdomen are surgeries at the risk of surgeries [11,12].

Our results show us that the female sex is much more affected than the male sex because of the multiple surgical procedures of the abdomen that women undergo compared to men, women are affected than men, which leads us to show that cesarean is the basis of the surgical history that causes complications in surgery of the abdomen [11,13]. This difference of result would be due to the predominant case as in our sample Caesarean section cases are more common the possibility of finding history of cesarean section increases in our sample

Like any surgery, well described above, we always have as complications hemorrhages and infections of the operating site or surgical wounds [10]. Many authors have show that infections of the surgical site and surgical folds are the main complications of surgery, for the surgical wound, it is because of the retention of the sutures as described by an author [14].

Our work shows us that surgical site infection and wound infection are the main complications in abdominal surgery, followed by hemorrhage already confirmed by other authors [12,15]. As we have seen in our work, evisceration is also a major complication in abdominal surgery [16].

Many authors have put the point on evisceration as well, and classified it under surgical complications of the abdomen after numerous studies as we have found in these references below [16-19]. Compared to other hospitals the frequency of postoperative complications is declining. This frequency is due to a lack of hygiene in postoperative patients, because the hospital where we conduct our research largely respects the asepsis and antisepsis measures.

Many patients benefited from good care and left the hospital without any particularity. The surgical and medical treatment, with antibiotics allow a good recovery of the patients who participated in our study. This frequency would be due to good quality management of surgical site infections and quality care of the surgical wound during dressing.

## Conclusion

Our work has finally made it possible to detect that despite current advances in medicine, complications from abdominal surgery remain a major health problem in our population. The important factor in the arrival postoperative is a good skin preparation, better application surgical techniques, careful observation of measurements antiseptic, to help reduce complications.

## The Author Contributions:

Conception and design: All authors, Administrative support: Aymar CA, Provision of study materials or patients: All authors, Collection and assembly of data: All authors, Data analysis and interpretation: Aymar CA, Manuscript writing: Aymar CA, Final approval of manuscript: All authors

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## Conflict or interest:

The authors declare that they have no conflict or interest.

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