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# Postoperative Complications in Colorectal Surgeries

**Haitham Saimeh***

King Faisal Hospital and Research Center, Jeddah, Saudi Arabia

***Corresponding author:** Saimeh H, King Faisal Hospital and Research Center, Jeddah, Saudi Arabia, Tel: 00966503467530; E-mail: haithamsaimeh@yahoo.com

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## Abstract

**This review of post operational complications of colorectal cases during the last three years in K.F.S.H RC. Jeddah was done to look for the most common complications that happened and methods of management. We did almost 250 major colorectal cases, almost 90 cases per year. In K.F.S.H we did low anterior resection (L.AR.), ultra-low anterior resection (U.L.A.R), abdomino perineal resection (A.P.R), right hemicolectomy, left hemicolectomy, reversal of ileostomy, and reversal of colostomy. Based on my prior knowledge, no similar cases have been published previously.**

***Keywords:** Postoperative complications; Surgical site infection; Colorectal surgery*

## 1. Introduction

Encountering a complication is unfavorable and regardless the great advances in the medical field, yet complications remain as a major threat to every surgeon due to the drawbacks resulting from it. Complications are split up in to two separate classifications as intraoperative and postoperative complications. Intraoperative complications include all type of injuries that affects the patient during the surgery such as bleeding, or ureteric injury. Whereas postoperative complications contain wound infection, anastomotic stricture, fistulae, rectovaginal fistula or enterocutaneous fistula [1].

There are several important risk factors that should be taken into consideration such as age, gender, of the patient as well as the experience background of the surgeon [2]. However, these complications could be reshaped and modified preoperatively in order to put a stop to intra and postoperative complications. Surgical complications should be avoided as much as possible and treated as soon as discovered because these complications waste valuable medical resources as well as it elongates the hospitalization duration in which this would raise the possibility of a patient encountering an infection or negatively impact the patient's stability and wellbeing [3,4].

In KFSH & RC we are using all the prophylactic measurements like pre-operative bowel preparation, including the antibiotics, over the last 3 years from January 2017 to December 2019 and for that we did not face too much complications. The main objective of this review is to discuss the risk, management, and outcomes of anastomotic complications of colorectal surgery.

## 2. Case

This paper aims to present the most challenging postoperative complications a surgeon will encounter. Several cases were studied and followed in a retrospective manner, discussing main methods of diagnosis, and management plans.

## 3. Discussion

The most frequent and recurrent postoperative surgical complications post colorectal resections include anastomotic leakage, bleeding, ileus, surgical site infection. These complications have different impacts and influences therefore these complications should be diagnosed in an appropriate manner. It is highly recommended to keep observing the patient post operatively checking for any source of complications before the patient's health deteriorates.

### 3.1 Anastomotic leakage

Anastomotic leakage is a significant complication specifically during intestinal surgery and lasts from day one postoperative till almost one month after discharge. Anastomotic leakage is a vital cause of preventable mortality due to encountering a septic infection. In order to diagnose and not miss an anastomotic leak we should carry continuous lab tests, since elevated C-reactive protein level or leukocytosis would raise suspicion behind the presence of anastomotic leakage. We can do CT scan of the abdomen and pelvis with oral, intravenous and rectal contrast, triple contrast, to help us in the diagnosis of the leak and to define if there is collection or not, that can be drained by radiographic intervention.

There are several measures for the treatment of anastomotic leak which mainly depends on the patients profile since some patients may be asymptomatic whereas in other patients anastomotic leaks may be presenting as a life threatening condition, this all has to do with non-influential factors as the age, gender and race of the patient. In order to treat the leakage none surgically we tend to use wide spectrum antibiotics, but traditional surgical intervention is sometimes done in order to manage life threating sepsis. According to the five cases that we conducted in the hospital, two were managed conservatively whereas three cases required operating room interventions.

### 3.2 Surgical site infection

Based on statics published to date surgical site infection doubles the risk of postoperative mortality, however nowadays due to the high hygienic measures taken by health care institutions, surgical site infection incidence has been reduced.

Not only this but also many studies manifested the great role of antibiotic prophylaxis in avoiding postoperative complications, but the main debate is about the duration as well as which subtype of antibiotics should be used. We could use Flagyl and second generation cephalosporins. During the last three years in our study, we had low percent of Surgical Site

Infection almost 5%-10% decreasing annually and we follow all the instructions and guidelines of infectious control team, some of which include, showering of the patient preoperatively, giving antibiotics both pre and post-operative. Not only this but we also should take into consideration the operating room temperature, as well as keeping the minimum number of individuals in the operating room in order to avoid any source of infection. We should also not forget to keep following strict pre, intra, post-operative sterilization system.

### 3.3 Postoperative anastomotic bleeding

It is considered rare to face postoperative bleeding after colorectal procedures, because most cases are self-limited, however major anastomotic bleedings should be treated immediately in order to maintain low levels of life threating complications. There are several predicators of postoperative bleeding and this include the nutritional status, mobility, activity of the patient.

Based on the case mentioned in this study, we were able to successfully manage postoperative anastomotic bleeding conservatively without surgical intervention. We should also consider the coagulation profile of the patient, and whether the patient is on anticoagulants or not. For some patients we should also rely on hematological consultation in order to correct protime INR if lab tests if above two. We had only one case of anastomotic bleeding, minor bleeding which we managed it conservatively (FIG. 1) [5].

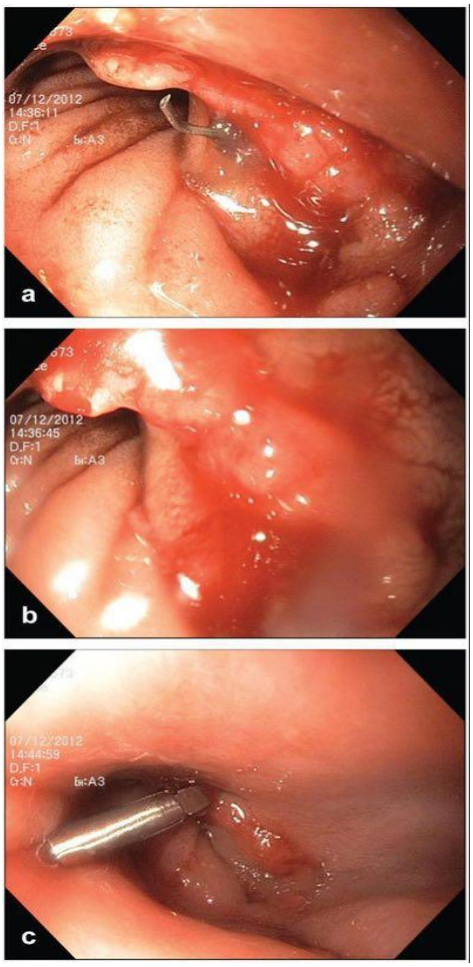


FIG 1. **This figure indicating postoperative anastomotic bleeding, being treated during the scope.**

### 3.4 Enterocutaneous fistula (ECF)

It is considered fatal for a surgeon to encounter ECF postoperatively, however when any surgeon encounters such a catastrophic complication, he should set a well-designed plan which is the framework that will guide him to manage the situation. ECF is an abnormal connection between the small bowel, esophagus, stomach, pancreas with the gastrointestinal skin. In the case we faced in KFSH was post right hemicolectomy to a patient suffering from complicated Crohn's disease. At the beginning we started with conservative treatment for almost one year which failed, because the patient was on biologic treatment and steroids for treating Crohn's disease, from general surgery approach we admitted him for OR, the fistula tract from the small bowel to the skin was resected and also the affected segment of the ilium was resected with anastomosis. To be mentioned, we had one case of rectovaginal fistula, post U.L.A.R and was treated with diversion and Gyne repair of the rectovaginal fistula.

### 3.5 Ureteral injury

In the cases we operated, we had six ureteric injuries in the past three years, three of them were discovered intraoperatively and direct repair was done by the urologist intraoperatively by the usage of a stent, stent was removed two months later. The rest three cases were discovered postoperatively, checking the creatinine level in the abdominal drain, the patient was taken to the OR by the urologist for repair and stent placement.

## 4. Conclusion

In my point of view, I believe that a surgeon should set well oriented approach and guidelines in order to manage post or intraoperative complications encountered but we should also not forget that we should always try to avoid these complications on the first hand.

Following are the prophylactic rules can help to avoid most of the anastomotic complications in Colorectal Surgery. Prophylactic rules include:

- Full bowel preparation oral solution the day before surgery using the cololyt
- Usage of IV antibiotics, Falgyl and cefurxime before surgery

In order to maximize the patient’s safety, the surgeon should be well trained and oriented. We should also consider that standardization of postoperative care that includes pain management and wound healing showed efficiency in improving the patient’s outcome.

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