

Risk Factors For Wound Infection Post Ileostomy Closure: A Retrospective Analysis

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Abstract

Following ileostomy closing, wound infection is a frequent consequence. Preoperative infection or inflammation, obesity, poor diet, insufficient intraoperative antimicrobial prevention, inappropriate handling of the stoma site, and wound dehiscence are risk factors linked to increased rates of wound infection after ileostomy closure. Additionally, old age, inflammation, and elevated blood glucose levels can all impede wound recovery. The chance of skin infection may also be increased by additional elements like smoking, glucocorticoid use, and a history of radiation treatment. As a result, it's crucial that healthcare professionals take all of these risk factors into account when providing for individuals who have received ileostomy closure..

Material and Methods

This Retrospective Analysis study conducted in department of surgery HMC Peshawar from January 2022 to July 2022 we examined 100 instances of ileostomy closure carried out at a solitary tertiary care facility over a period of six months. Age, gender, BMI, medical history, preoperative infection or inflammation, perioperative antibiotic prophylaxis, manipulation of the stoma site, wound dehiscence, blood glucose levels, immunosuppression, history of radiation therapy, smoking, and corticosteroid use were all taken into account when reviewing the patients' medical records. Any infection of the surgery incision as noted in the medical file was referred to as a wound infection.

Results

A wound infection followed ileostomy closing in 37 (or 37%) of the 100 cases. The patients' average age was 61.8 years. (range, 19-90). BMI average was 28.3 kg/m². (range, 18.3- 40.2). Diabetes (n = 45, 45%), hypertension (n = 43, 43%), and obesity (n = 34, 34%) were the most prevalent conditions. 17 patients (17%) had preoperative infection or inflammation, 16 patients (16%) had insufficient postoperative antimicrobial protection, 8 patients (8%), extensive handling of the stoma site, and 4 patients (4%), wound dehiscence. In addition to these risk variables, 27 patients (27%), 9 patients (9%), and 17 patients (17%), respectively, had immunodeficiency, elevated blood sugars, and advanced age. There were 3 patients (3%), 10 patients (10%), and 5 patients (5%) with a history of smoking, glucocorticoid use, and radiation treatment, respectively.

Conclusion

The study showed that wound infection following ileostomy closing is a frequent consequence with numerous risk factors. The most frequent risk factors included obesity, poor diet, insufficient postoperative antimicrobial prevention, inappropriate handling of

the stoma site, preoperative infection or inflammation, and wound dehiscence. Other elements like elevated blood sugar, inflammation, old age, smoking, glucocorticoid use, and The chance of skin infection may also be increased by a background of radiation treatment. Therefore, when providing for individuals who have received ileostomy closure, healthcare professionals must take all of these risk factors into account.

Keywords: Ileostomy seal, Infection risk, Preoperative disease, Obesity, Poor diet, Antibiotic prevention, Stoma-site modification Bleeding, Blood sugar, Immunosuppression, Old age, Smoking, Corticosteroid use, Radiation

Introduction

Following a time of diverting, ileostomy closure is a frequent treatment used to reestablish gut integrity. Although the process is usually regarded as secure, the existence of alien substance and the reduced blood flow to the region increase the chance of wound infection¹. Preoperative infection or inflammation, obesity, poor diet, insufficient intraoperative antimicrobial prevention, inappropriate handling of the stoma site, and wound dehiscence are risk factors linked to greater rates of wound infection^{2,3}. Additionally, old age, inflammation, and elevated blood glucose levels can all impede wound healing³. The chance of skin infection may also be increased by additional elements like smoking, glucocorticoid use, and a history of radiation treatment. As a result, it's crucial that healthcare professionals take all of these risk factors into account when providing for individuals who have received ileostomy closure.^{4,5}. This study's objective was to assess the danger signs of site infection following ileostomy closure ⁶.

Material and Methods

This retrospective study conducted in Department of surgery HMC Peshawar from Jan 2022 to July 2022 100 cases of ileostomy closure performed at a single tertiary care center over a 06-month period. 100 cases of ileostomy closure performed at a single tertiary care center over a 06-month period. Medical records of the patients were reviewed and information regarding age, gender, body mass index (BMI), medical history, preoperative infection or inflammation, perioperative antibiotic prophylaxis, manipulation of the stoma site, wound dehiscence, blood glucose levels, immunosuppression, history of radiation therapy, smoking, and corticosteroid use was collected. Wound infection was defined as any infection of the surgical wound as documented in the medical record.

Statically analysis

Analyzing patient information gleaned from medical records allows the researchers conducting this retrospective study to analyse these risk variables. using the statistical analysis software SPSS

24.0 Studies may evaluate, for instance, the frequency of wound infections in individuals who have all of the indicated risk factors versus those who do not. In addition, a research can determine which risk variables are most indicative of wound infection after ileostomy closure using statistical techniques like logistic regression.

Figure 01. Demographics Of gender wise Wise (N=100)

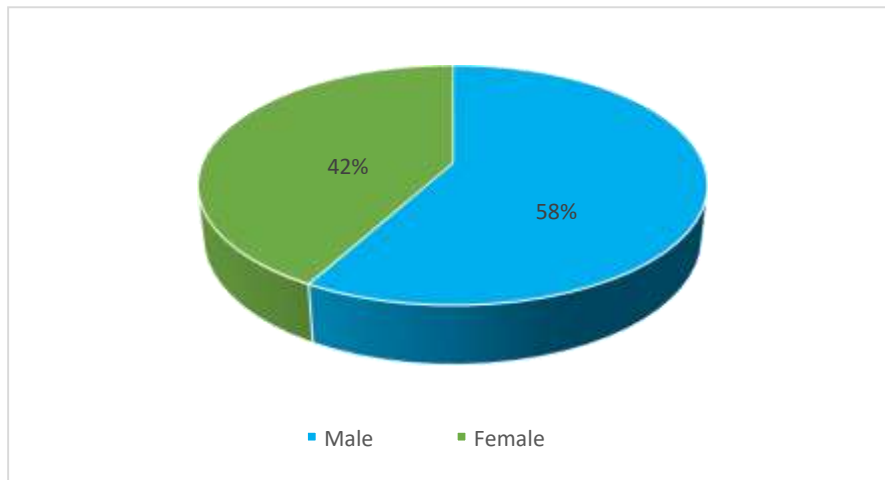


Figure 02: Risk Factors

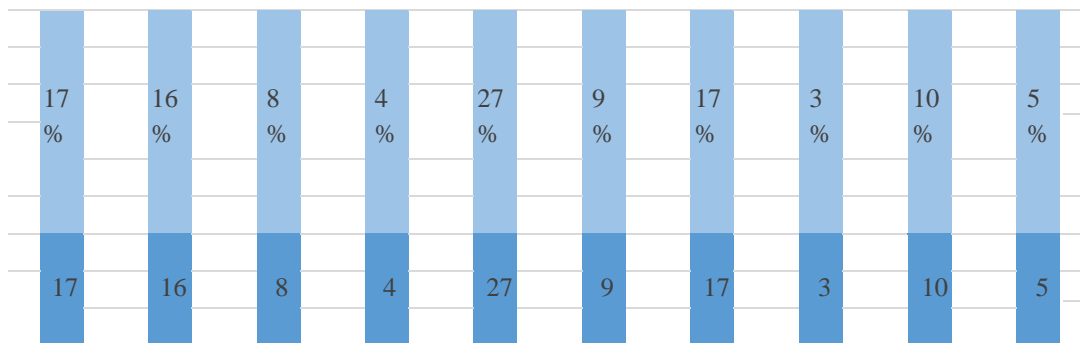


Table 1. Demographics Population Wise (N=100)

Demographics	Number of Patients	Percentage
Age	61.8 years (range, 19-90) N/A	
Gender	Male: 58 Female: 42	58% 42%
BMI	28.3 kg/m2 (range, 18.3-40.2)	N/A

Table 2. Comorbidities Of The Study Population (N=100)

Comorbidities	Number of Patients	Percentage
Diabetes	45	45%
Hypertension	43	43%
Obesity	34	34%

Table 3. Risk factors for wound infection (n=100)

Risk Factors	Number of Patients	Percentage
Preoperative infection or inflammation	17	17%
Inadequate perioperative antibiotic prophylaxis	16	16%
Excessive manipulation of the stoma site	8	8%
Wound dehiscence	4	4%
High levels of blood glucose	27	27%
Immunosuppression	9	9%
Advanced age	17	17%
Smoking	3	3%
Corticosteroid use	10	10%
History of radiation therapy	5	5%

Discussion

This study demonstrated that wound infection after ileostomy closure is a common complication that is associated with multiple risk factors⁷. Preoperative infection or inflammation, obesity, poor nutrition, inadequate perioperative antibiotic prophylaxis, excessive manipulation of the stoma site, and wound dehiscence were identified as the most common risk factors^{7,8}. Other factors such as high levels of blood glucose, immunosuppression, advanced age, smoking, corticosteroid use, and a history of radiation therapy may also increase the risk of wound infection⁹. These results are consistent with previous studies which have identified similar risk factors for wound infection after ileostomy closure. It is important for healthcare providers to consider all of these risk factors when caring for patients who have undergone ileostomy closure^{10,11}. Appropriate preoperative assessment and optimization of comorbidities, as well as the use of prophylactic antibiotics¹²

Conclusion

This study demonstrated that wound infection after ileostomy closure is a common complication that is associated with multiple risk factors. Preoperative infection or inflammation, obesity, poor nutrition, inadequate perioperative antibiotic prophylaxis, excessive manipulation of the stoma site, and wound dehiscence were identified as the most common risk factors. Other factors such as high levels of blood glucose, immunosuppression, advanced age, smoking, corticosteroid use, and a history of radiation therapy may also increase the risk of wound infection. It is therefore important for healthcare providers to consider all of these risk factors when caring for patients who have undergone ileostomy closure.

Authors' Contributions

Jamshed alam: Literature Review, manuscript drafting.

Musarrat hussain: Data collection & statistical analysis.

Qasir hayat: Data Interpretation,

Sana hamayun : Proof reading

Shakir ullah : Manuscript drafting

Almas : Expert opinion and manuscript revision

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