

# ASSESSMENT OF SEVERAL PROGNOSTIC FACTORS OF INTESTINAL ANASTOMOTIC LEAKAGE

## ABSTRACT

**OBJECTIVES :** To determine the various prognostic factors of intestinal anastomosis leakage at the Tertiary Care Hospital

**MATERIAL AND METHODS:** This prospective observational study was conducted in All NasSurgical Units of the University Hospital of Liaquat Jamshoro/Hyderabad. A total of 100 patients with submission to gastrointestinal surgeries with intestinal anastomosis were included. After conducting a detailed examination of history and clinical, in all And relevant investigations of patients, i.e. blood CP, X-ray abdomen, Blue Methylene Test for Leaks (to confirm leaks) and Ultrasound sound of the abdomen, and If they were left free of any NO complications, RECEIVED will be discharged. Was data collection CONDUCTED AS? will be THE ANALYSIS OF RESULTS was carried out using the statistical package for social science (SPSS) version 26.0

**RESULTS:** The mean age was 51.5±3.5 years, the male sex was found in the majority (76.6%). In clinical presentation, abdominal pain was the most common (63.6%). The 75/(25.0%) type-foiy was the most common diagnosis. The pathological site was found as ileocholic 180/(60.0%). Poor nutritional status was 60.0% of the cases. Anaemia was 40%, diabetes 20% and hypertension 10%. The high history of steroid dose was in 10% of cases and 6.6% had a history of chemotherapy. Bowel ischemia in the suture line was observed in 6%, local sepsis was 20%, distal obstruction to anastomosis was 6.6%, early postoperative seizures were 6.6%.

**CONCLUSION:** Male sex, poor nutritional status, diabetes, anemia, ocal sepsis pressure, chemotherapy and high seroid dose were highly prevalamt observed and suspected as factors of anastomosis leakage. In addition, many efforts are needed to reduce mortality and morbidity rates associated with anastotic leakage.

**KEYWORDS:** Leakage of intestinal anastomosis, SURGICAL risk factors, EVALUATION.

## INTRODUCTION

Anastotic discontinuation is the most eatery complication of gastrointestinal surgery. However, anastotic leakage in most patients is dramatically present at the beginning of the postoperative period, leaving little doubt in making the appropriate diagnosis. A considerable proportion present in a much more subtle way, often relatively late postoperatively, consequently can be difficult to distinguish from other postoperative infectious complications. Although there has been a major advance in gastrointestinal surgery, but anastotic leakage or dehiscence is still common in surgical practice, and greatly increases the morbidity and mortality associated with surgery. Thus, it doubles hospitalization and increases mortality by up to 8 to 10 times.<sup>1st</sup>

Patients with anastotic leakage present with abdominal pain, rigid abdomen, and aquicardia. The available literature suggests a mortality rate of 10 to 15% after anastonotic leakage.<sup>2-5</sup> However, most patients who have an anastotic leak develop more gradual but harmful outcomes.<sup>6</sup> In these patients, reaching the diagnosis seems to be much more difficult, since the clinical course is often similar to other postoperative infectious complications. The cause of leakage is often multifactorial, including factors related to THE PATIENT'S POSTOPERATIVE CARE BEHAVIOR, in addition to the contribution of the defective technique, ischemia of the intestine in the suture line, excessive tension between anastomosis and mesenter, presence of local sepsis, presence of distal obstruction to chronic obstructive pulmonary disease of anastomosis, and transfusion of two or more units of blood during the operation. Older age (>80 years), anemic, malnourished with various coexisting diseases, receiving high

doses of steroids after chemotherapy-radiotherapy, have a relatively higher risk for developing anastomytic leakage.<sup>8</sup> The available literature confirms the above factors, however it is not yet studied thatS what are the dependent factors and how they affect in the combination. Therefore, this study was designed to analyze the various prognostic factors of intestinal anastomosis leakage at the Tertiary Care Hospital.

## MATERIAL AND METHODS

This prospective observational study was conducted in All Surgical Units of the University Hospital of Liaquat Jamshoro/Hyderabad. All patients undergoinggastrointestinal surgerieswith intestinal anastomosis, age> 12 years and any gender were included. All apts who did not agree to participate in the suty were excluded WHICH NUMBER OF NON-ADHERENT TO THE STUDY?. Informed written consent was obtained from the patient or the next of kin. Patients who meet the inclusion criteria admitted to the Surgical Wards WERE selected, WHICH THE NUMBER OF NON-CARE OF THE CRITERIA FOR THE STUDY was selected. After performing clinical and high and deep examinations and all rutiens and necessary, including abdominal ultrasound. Details of each patient were recorded in a proforma designed for this study. Ten-week follow-up was performed in all cases. After data collection, the analysis was performed through the Social Sciences Statistical Package (version 20 of the SPSS program). DIFFERENT FROM THAT EXPOSED IN THE ABSTRACT

## RESULTS

A total of 100 patients were studied. The mean age of the patients was 51.5±3.5 years and the male sex was found in the majority (76.6%) while the female (23.4%). Abdominal pain was

the most common symptom (63.6%). Typhoid fever 25.0% was the most common diagnosis, followed by carcinoma 20%, Perforation 17%, volvulus 3.3%, Intestinal obstruction 17.3%, gastric outflow obstruction 1.0%, multiple strituras 2.0%, unstructured hernia 8.3%, trauma 4.3% and intussusceptions 2.%. Peritoneal contamination was 30% and the pathological site presented in the table.1

Poor nutritional status was the majority of cases of 60.0%. According to comorbidities, anemia was found more common in 40%, diabetes 20% and hypertension 10%. High-dose history of steroids was in 10% of cases and history of chemotherapy was observed in 6.6% of cases. The ischemia of the intestine in the suture line was observed in 6%, the presence of local sepsis was the most common 40%, the presence of distal obstruction to anastomosis was noted in 6.6%, early postoperative reactions were 6.6%, postoperative internal hernia was noted at 6.0% and the ospital mortality rate was recorded in 8.0% in the cases. **The Table. digit**

Table. 1. Demographic finding of study participants=100

Variables		Statistics
Age (years)		51,5 <sub>+3,5</sub>
Gender	Macho	76(76.0%)
	Female	23(23.0%)
Showing symptoms	Abdominal pain	63(63.0%)
	Constipation	33(33.0%)
	Distension	20(20.0%)
	Nausea	40(40.0%)
	Vomit	33(33.0%)
	Unconscious	02(2.0%)
Diagnosis	Typhoids	25(25.0%)
	Carcinoma	20(20.0%)
	Drilling	17(17.0%)
	vólvulo	03(03.0%)
	Intestinal Obstruction	17(17.0%)
	Obstruction of gastric outlet	03(03.0%)
	Obstructed hernia	25(25.0%)
	Trauma	13(13.0%)
	Intussusceptions	06(06.0%)
	Pathology website	Ileoclic
Ileosigmoid		06(06.0%)
Colocolic Right		15(15.0%)
colocolic left		10(10.0%)
Colosigmoid		04(04.0%)
Colorectal		03(03.0%)
Peritoneal contamination	Present	30(30.0%)
	Absent	70(70.0%)
Bowel condition	Friable	40(40.0%)
	Éedematous	60(60.0%)

Table. 2 Factors of intestinal anastomosis leakage=100

Variables		Statistics
Preoperative factors	Poor nutritional status	60(60.0%)
	Comorbidades	Diabetes 20(20.0%)

	Hypertension	10(10.0%)
	Anemia	40(40.0%)
	Proteinemia	25(25.0%)
	History of chemotherapy	06(06.0%)
	Getting high dose of steroids	10(10.0%)
	Post-operative facores	Ischemia of the intestine in the suture line
Presence of local sepsis		20(20,0%)
Presence of distal obstruction to Anastomosis		06(06,0%)
Early postoperative upheaves		06(06.0%)
Other		07(07,0%)

## DISCUSSION

Anastotic leakage is a potentially serious complication that can develop after colorectal surgery and result in increased morbidity and mortality, the establishment of a permanent stoma, and cancer recurrence.<sup>9</sup> Several risk factors for anastotic leakage have been found, and these may help prevent and diagnose this serious complication earlier.<sup>9</sup> In this study, males, poor nutritional status, diabetes, anemia, premonation of ocal sepsis, chemotherapy and high seroid dose were suspected as factors of anastomosis leakage. These findings were almost similar to the study by Midura EF et al<sup>10</sup> male, steroid use, smoking, open approach, operational time and preoperative chemotherapy were all linked to an increased risk of anastomotic leaks, while ileostomy deviation was linked to a lower risk of leaks. In the study by Cheng S et al<sup>11</sup> demonized, the mean degree of differentiation of the tumor, anastomotic method, chemodotherapy, intraoperative bleeding, dibates and smoking were the factors causing the leakage of anastomosis. Although many writers believe that surgery time is a simple metric of difficulty, longer surgery time produces changes in inflammatory mediator activities, resulting in a high frequency of ischemic and septic sequelae. On the otherhand, Lavanya NR et al<sup>12</sup> reported that eight of the thirteen patients who suffered anastotic leakage were men. Anastotic leakage developed in a patient undergoing elective surgery. Four of the 13 cases with anastomotic leakage were anemic, four hyponatramic and five hypoalbuminemia. Nine of the 13 patients with anastomotic leakage had peritonitis at the time of presentation.

In this study, the mean age of the patients was 51.5<sub>+3.5</sub> years and the majority was male (76.6%). Consistently El-Badawy HA et al<sup>13</sup> reported that the theaverag age of the study subjects was 44.23 years and men were in the majority 63.64%. In another study by Gutema Wako et al<sup>15</sup>, the 46.44 years were the mean age of the cases and men were 74.8%. In this study, anemia and poor nutritional status were highly frequent. On the other hand, it is stated that anemia has been linked to the development of leaks. Hemoglobin is linked to anastomotic margin perfusion and oxygenation, which is fundamental for anastomy healing.<sup>15</sup> Currently, this is a research theme, and several authors have found that hemoglobin levels below 11 g/dL increase the risk of leakage, as explained by the decrease in oxygen transfer capacity to tissues and the danger of ischemia that follows.<sup>15,16</sup>

## CONCLUSION

Male sex, poor nutritional status, diabetes, anemia, premonition of local sepsis, chemotherapy and high steroid dose were observed highly prevalent and suspected as factors of anastomosis leakage. The best nutritional status and the proper management of anemia the morbidity can be decreased. In addition, many efforts are needed to reduce mortality and morbidity rates associated with anastomotic leakage.

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