ASSESMENT OF SEVERAL PROGNOSTIC FACTORS OF INTESTINAL ANASTOMATIC 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 Nas Surgical 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) version26.0

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. [1st]

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. [2-5] However, most patients who have an anastotic leak develop more gradual but harmful outcomes. [6] 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. [8] 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 undergoing gastrointestinal surgeries with 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±3,5
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	60(06.0%)
	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		05(05,0%)
	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. [9] Several risk factors for anastotic leakage have been found, and these may help prevent and diagnose this serious complication earlier. [9] In this study, males, poor nutritional status, diabetes, anemia, preemonation 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 [al10] male, steroid use, smoking, open approach, operational time and preoperative chemotherapy were all linked to an increased risk of anastonotic leaks, while ileostomy deviation was linked to a lower risk of leaks. In the study by Cheng S et [al11] demonized, the mean degree of differentiation of the tumor, anastonotic method, chemodiotherapy, 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 other hand, Lavanya NR et [al12] 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 anastonotic 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±3.5 years and the majority was male (76.6%). Conssitently El-Badawy HA et [al13] 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 [al15], 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 anastonotic margin perfusion and oxygenation, which is fundamental for anastomy healing. [15] 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. [15.16]

CONCLUSION

Male sex, poor nutritional status, diabetes, anemia, presemonation of ocal sepsis, chemotherapy and high seroid dose were observed highly prevalamt and suspected as factors of anastomosis leakage. The best nutritional estaus and the proper management of anemia the morbisityr can be decreased. In addition, many efforts are needed to reduce mortality and morbidity rates associated with anastotic leakage.

REFERENCES

1. Qureshi JN, Qureshi ZA, Ahuga P, Memon AS. A natootic leak - A study of etiological factors J Surg Pak Dec 2001;6(4):22-4.

2. Bj Moran, Cured RJ. Risk factors for and management of anastotic leakage in rectal surgery. Dis Colorectal 2001; 3: 135–137.

3. Docherty JG, McGregor JR, Akyol AM, et al. Comparação de anastomoses construídos manualmente e grampeados em cirurgia colorretal: West of Scotland e Highland Anastomosis Study Group. *A Ann Surg*. 1995;221:176-184.

4.Fingerhut A, Elhadad A, Hay JM, et al. Infraperitoneal colorectal anastomosis: manual stitching versus circular staples. A controlled clinical trial: French Surgical Research Associations. *Surgery, surgery*. 1994;116:484-490.

5.Fingerhut A, Hay JM, Elhadad A, et al. Supraperitoneal colorectal anastomosis: manual stitching versus circular staples. A controlled clinical trial: French Surgical Research Associations. *Surgery, surgery*. 1995;118:479-485.

6. Bokey EL, Chapuis PH, Fung C, et al. Postoperative morbidity and mortality after colon and rectum resection for cancer. *Dis colon rectum*. 1995;38:480-487.

7. Senn N: Enterorrhaphy; history, technique and current status. 1893 JAMA;21:215-235

8. Bielecki K, Gajda A. The causes and prevention of anastotic leakage after colorectal surgery. Klin Onkol. 1999;12(Suppl 1999):25-30.

9. Zarnescu EC, Zarnescu NO, Costea R. Risk Factor Updates for Anastotic Leakage after Colorectal Surgery. Diagnostics. 2021 Dec;11(12):2382.

10. Midura EF, Hanseman D, Davis BR, Atkinson SJ, Abbott DE, Shah SA, Paquette IM. Risk factors and consequences of anastotic leakage after cholectomy: a national analysis. Colon & Rectum Diseases. 2015 Mar 1;58(3):333-8.

11. Cheng S, He B, Zeng X. Prediction of anastotic leakage after anterior rectal resection. Pakistan Journal of Medical Sciences. 2019 May;35(3):830.

Lavanya NR, Janardhana T. Prospective study to understand risk factors for anastotic leakage in small intestinal anastomosis. J. Evolution Med. Dent. Sci. 2020;9(19):1549-1553,

13th El-Badawy HA. Anastotic leakage after gastrointestinal surgery: risk factors, presentation and outcome. The Egyptian Journal of Hospital Medicine. 1.57 October 2014(1):494-512.

14. Gutema Wako, Henok Teshome, Engida Abebe. Colorectal Anastomosis Leak: Rate, Risk Factors and Outcome at a Tertiary University Hospital, Addis Ababa Ethiopia, Five-Year Retrospective Study. Ethiop J Health Sci. 2019;29(6):767

15. Zarnescu EC, Zarnescu NO, Costea R. Risk Factor Updates for Anastotic Leakage after Colorectal Surgery. Diagnostics. 2021 Dec;11(12):2382.

16. Hayden DM, Pinzon MC, Francescatti AB, Tj Saclarides. Patient factors may predict anastomytic complications after rectal cancer surgery: anastonotic complications in rectal cancer. Medical and Surgery Schools. 2015;1;4(1):11-6.