Original Article

A clinical study of gastro intestinal fistula at tertiary health care center

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Abstract

Introduction: Enterocutaneous fistula (ECF) may occur due to a disruption in the gastrointestinal tract either due to surgery or disease, or both. These are most commonly seen in the postoperative setting and are associated with significant morbidity and mortality. The difficulties encountered in their management are related to sepsis, malnutrition, fluid and electrolyte imbalances, and consequent metabolic disturbances. **Aims and Objectives:** To study Clinical Parameter Gastro Intestinal Fistula at Tertiary Health care center. **Methodology:** This was a Cross-sectional study of the Patients with Gastro-intestinal fistula at tertiary health care center in 40 patients who developed GI fistulas by various reasons were study during the one year period from December 2014 to December 2015 All those patient those given consent were included into the study while those who didn't given consent and were having immune compromised state and terminally ill were excluded from the study. **Result:** In present study, the patient age varied form 8 years to 81 years with mortality rate comparatively higher in older age group. There were 6 deaths in age group more than 40 years and only 3 in less than 40 years. So mortality was higher in older age group out of 40 patients, 24 were male and female were 16. Thus male of female ratio was 3.1. A spontaneous GI fistula arises as a consequence of disease in the wall of the gut (e.g. Crohn's disease, malignancy). Major share for indication was by intestinal obstruction, abdominal koch's malignancy. Most of the patients were operated in emergency situation. Maximum number of patients had fistula between days 3rd to 7th most common presenting complaint was fond to be pus followed by leak in 32 patients. Next common complaints were ileus and distension of abdomen. Single patient was presented with acute renal failure. **Conclusion:** In our study we can conclude the mortality rate of GI Fistula was comparatively higher in older age group and was common in male as compared to females and most common presenting complaint was fond to be pus followed by leak in the patients.
Keywords: Enterocutaneous fistula, Gastro-intestinal fistula, Cohn's disease, Intestinal obstruction.

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INTRODUCTION

Enterocutaneous fistula (ECF) may occur due to a disruption in the gastrointestinal tract either due to surgery or disease, or both. These are most commonly seen in the postoperative setting and are associated with significant morbidity and mortality. The difficulties encountered in their management are related to sepsis, malnutrition, fluid and electrolyte imbalances, and consequent metabolic disturbances.[1] Hence, favorable outcome in patients with ECF depends on control of sepsis, adequate nutritional support, maintenance of fluid-electrolyte balance, and skin protection.[2,3] Earlier studies have reported mortality as high as 65% in patients with ECF. Advances in imaging, nutritional support, and availability of effective antibiotics have reduced this to around 20%.[4,5] The large number of intraperitoneal abscesses that occurred, or which first were discovered after the formation of the fistula, emphasized the need of careful search for this complication in patients with fistulas."[6] The development of parenteral nutrition was one of the next major advances in the care for these patients. Fischer and colleagues in the 1970s described the impact of hyperalimentation and peri-operative care in patients with GI fistulas.[7] The combined improvements in

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care resulted in a mortality decrease among patients with GI cutaneous fistulas from ~48% to 15%. By the 1980s, a well-focused paradigm was accepted that incorporated sepsis control, wound care, nutritional support, and stress on operative technique—concepts that remain critical to this day. Such an overall treatment plan delivered improved rates of fistula elimination.[8]Spontaneous closure rates of ECFs following optimal nonoperative therapy range widely depending on the cause of the fistula, and other variables including nutrition, location, and comorbidities. When postoperative small bowel fistulas were specifically examined in 2008 by Martinez and colleagues, only 25% resulted in spontaneous closure (23 of 90 patients).[9] Interestingly, over 30 years ago the surgical team from the University of California Medical Center, San Francisco evaluated their experience with 186 patients with external GI fistulas treated from 1968 to 1977 and found similar results.[10] More recently, the specialized surgery unit at St. Marks Hospital in the United Kingdom published an 11-year retrospective review of their experience with ECF through 2004.[11]

AIMS AND OBJECTIVES

To study Clinical Parameter Gastro Intestinal Fistula at Tertiary Health care center.

MATERIAL AND METHODS

This was a Cross-sectional study of the Patients with Gastro-intestinal fistula at tertiary health care center in 40 patients who developed GI fistulas by various reasons were study during the one year period from December 2014 to December 2015 All those patient those given consent were included into the study while those who didn't given consent and were having immune compromised state and terminally ill were excluded from the study.

RESULT

Table 1: Showing age distribution of patients

Age (yrs)	No. of Cases	percentage
<10	04	10.0
11-20	07	17.5
21-30	06	15.0
31-40	05	12.5
41-50	07	17.5
51-60	03	07.5
>60	08	20.0
Total	**40**	**100.0**

In present study, the patient age varied form 8 years to 81 years with mortality rate comparatively higher in older age group.

Table 2: Age Related Mortality

Age(yrs)	Mortality(cases)
0-20	3
21-40	0
41-60	3
>60	3

Thus there were 6 deaths in age group more than 40 years and only 3 in less than 40 years. So mortality was higher in older age group.

Table 3: Depicting sex distribution

Sex	No. of case	Percentage
Male	24	60
Female	16	40.0

In this study, out of 40 patients, 24 were male and female were 16. Thus male of female ratio was 3.1.

Table 4: Distribution of the Patients as Per Type GI Fistula

Type	No. of cases	Percentage
Spontaneous	01	02.5
Postsurgical	39	97.5
Total	**40**	**100.0**

A spontaneous GI fistula arises as a consequence of disease in the wall of the gut (e.g.Crohn's disease, malignancy).

Table 5: Indication of surgery

Indication	No. of cases
Enteric	04
Duodenal perforation	05
Appendicular perforation	04
Abdominal koch's	06
Malignancy	07
Intestinal obstruction	08
Adhesive	03
Trauma	01
Secondary suturing	01

Major share for indication was by intestinal obstruction, abdominal koch's malignancy.

Table 6: Time of surgery

Time of surgery	No. of patients	percentage
Emergency	30	75.0
Routine	09	25.0
Total	**39**	**100.0**

In the present study, most of the patients were operated in emergency situation.

Table 7: Day of occurrence of fistula following surgery

Postoperative day	No.of cases	Percentage
1st and 2nd	02	05.0
3rd and 4th	14	35.0
5th and 7th	14	35.0
8th and 10th	09	22.5

Maximum number of patients had fistula between day 3rd to 7th

Table 8: Associated finding

Presenting complaints	No. of cases	Percentage
Low grade fever	23	57.5
Ileus	28	70.0
Distension	28	70.0
Pus followed by leak	32	80.0
Renal failure	01	02.5

Most common presenting complaint was fond to be pus followed by leak in 32 patients. Next common complaints were ileus and distension of abdomen. Single patient was presented with acute renal failure.

DISCUSSION

Both local and systemic factors may contribute to postoperative fistula formation,[12] including infection or breakdown of an intestinal anastomosis due to ischaemia, tension, or distal obstruction. They generally form as external rather than internal fistulae[13] because of the presence of a drain. Technical problems that can lead to fistula formation include inadvertent full thickness bowel injury, deserosalisation of the bowel, suture-line defects, and tight suture causing ischaemic necrosis. Further factors include inadvertent injury to the mesenteric vessels, poor haemostasis resulting in a perisuturehaematoma, inappropriate use of drains, and a loop of intestine caught in a fascialsuture.[13] When an abscess cavity is associated with a fistula, infected material tends to collect adjacent to the gastrointestinal tract defect, preventing adequate healing of this defect. Healing is also compromised by malnutrition, immunosuppression secondary to medications, or specific disease states.[14] Gastrointestinal fistulae remain a catastrophe in any contemporary surgical practice. In past spontaneous enterocutaneous fistula were more as compared to the present number now, post-surgicalenteroculaneous fistula forms major portion. Also number of cases of enterocutaneous fistula has risen last decade. In past post-surgicalenterocutaneous fistula were seen as a failure of surgery and patients oftenused to preferred to die in their own homes rather then to be treated in the hospital. Also due to economic problems and non aggressive approach by surgeon leads to major morbidity and mortality. Now with TPN, enteral feeding, better local care, pyscologicalboost up of patient to maintain morale has improved management of enterocutaneous fistula a lot giving better results. In Western population, 75%-85% of patients develop ECF as a complication following surgery of gastrointestinal tract. Spontaneous fistula accounted for the remaining 15%-25%. All cases, except one, in the present case series, developed an ECF following an operative procedure. In an earlier study carried out by Manisegaran *et al*., from our institute in 1994, it was found that 88% of ECF occurred in the postoperative period.[15]The lesser incidence of inflammatory bowel diseases in this part of the world may account for this difference. In present study, the patient age varied form 8 years to 81 years with mortality rate comparatively higher in older age group. There were 6 deaths in age group more than 40 years and only 3 in less than 40 years. So mortality was higher in older age group out of 40 patients, 24 were male and female were 16. Thus male of female ratio was 3.1. A spontaneous GI fistula arises as a consequence of disease in the wall of the gut (e.g. Crohn's disease, malignancy). Major share for indication was by intestinal obstruction, abdominal koch's malignancy. Most of the patients were operated in emergency situation. Maximum number of patients had fistula between days 3rd to 7th most common presenting complaint was fond to be pus followed by leak in 32 patients. Next common complaints were ileus and distension of abdomen. Single patient was presented with acute renal failure.

CONCLUSION

In our study we can conclude the mortality rate of GI Fistula was comparatively higher in older age group and was common in male as compared to females and most common presenting complaint was fond to be pus followed by leak in the patients.

REFERENCES:

1. Edmunds LH, Jr, Williams GM, Welch CE. External fistulas arising from the gastro-intestinal tract. Ann Surg. 1960; 152:445–71.
2. West MA. Conservative and operative management of gastrointestinal fistulae in the critically ill patient.CurrOpinCrit Care. 2000; 6:143–7.
3. Makhdoom ZA, Komar MJ, Still CD.Nutrition and enterocutaneous fistulas. J Clin Gastroenterol.2000; 31:195–204.
4. McIntyre PB, Ritchie JK, Hawley PR, Bartram CI, Lennard-Jones JE. Management of enterocutaneous fistulas: A review of 132 cases. Br J Surg. 1984; 71:293–6.
5. Sitges-Serra A, Jaurrieta E. Management of postoperative enterocutaneous fistulas: The roles of parenteral nutrition and surgery. Br J Surg. 1982; 69:147–50.
6. Edmunds L H, Jr, Williams G M, Welch C E. External fistulas arising from the gastro-intestinal tract. Ann Surg. 1960; 152:445–471.
7. Soeters P B, Ebeid A M, Fischer J E. Review of 404 patients with gastrointestinal fistulas. Impact of parenteral nutrition. Ann Surg. 1979; 190(2):189–202.
8. Fischer J E. The pathophysiology of enterocutaneous fistulas. World J Surg. 1983; 7(4):446–450.
9. Martinez J L, Luque-de-Leon E, Mier J, Blanco-Benavides R, Robledo F. Systematic management of postoperative enterocutaneous fistulas: factors related to

outcomes. World J Surg. 2008; 32(3):436–443. discussion 444.
10. Reber H A, Roberts C, Way L W, Dunphy J E. Management of external gastrointestinal fistulas. Ann Surg. 1978; 188(4):460–467.
11. Hollington P, Mawdsley J, Lim W, Gabe S M, Forbes A, Windsor A J. An 11-year experience of enterocutaneous fistula. Br J Surg. 2004; 91(12):1646–1651.
12. Fazio V, Coutsoftides T, Steiger F. Factors influencing the outcome of treatment of small bowel cutanous fistulae. World J Surg1983; 7:481–8.
13. Rubelowsky J, Machiedo GW. Reoperative versus conservative management for gastrointestinal fistulas. SurgClin N Am1991; 71:147–57.
14. Rolandelli R, Roslyn JJ. Surgical management and treatment of sepsis associated with gastrointestinal fistulas. SurgClin N Am1996; 76:1111–22.
15. Manisegaran M. Dissertation. Pondicherry, India: Pondicherry University; 1994. Etiology and clinical course of enterocutaneous fistula.

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