

Etiology

Of the 25 cases , 24 cases were due to postoperative complication and one was spontaneous onset

Elective/ Emergency

Of the total cases, 6 cases followed elective surgeries(24%) while 19 cases of fistula followed emergency surgeries (76%). Mortality was higher i.e 6 deaths (31.8%), in cases done in emergency, whereas 1 death out of 6 cases (16.7%) in cases done on elective basis

Site of Fistula

There were 4 cases arising from stomach and duodenum (16%), 14 cases from small bowel(56%) and 7 cases from colon (28%)

	No. of cases	Deaths	Mortality (%)
Stomach & Duodenum	4	1	25
Small Intestine	14	5	35.71
Large Intestine	7	1	14.28

Onset

The mean time of onset of postoperative fistula was 5.84 post operative day. The earliest onset was 1 day and the longest on the 20th post operative day. Mortality was high i.e 37.5% in cases which developed fistula within 7 days of onset and mortality was 16.7% in cases after 8-14 days and there were no deaths in case s which developed fistula after 15 to 21 days

Output

	Low (<200ml/day)	Moderate (200-500ml/day)	High (>500 ml/day)
Stomach & Duodenum	1	0	3
Small intestine	3	2	9
Colon	5	2	0

There was one death in 10 patients with low or moderate output fistulas (Mortality 10%). 6 of the 12 pateints with high output fistula (Mortality 50%)[4]

Grade of Fistula

	No. Of cases	Deaths	Mortality (%)
GRADE I	6	0	0
GRADE II	1	0	0
GRADE III	1	0	0
GRADE IV	9	4	44.5
GRADE I + III	7	2	28.5
GRADE I + IV	1	1	100

Majority of deaths occurred in grade III and grade IV fistulas.

Sepsis

	No of cases	Deaths	Mortality (%)
Present	12	7	58.3
Absent	13	0	0

12 out of 25(48%) patients had evidence of sepsis of which 7 died (58.3% Mortality). Of the 13 patients (52%) without sepsis there were no deaths (Mortality 0%)[3]

Closure

Of the 18 fistulas which closed, 12 closed by conservative management alone. 2 patients resolved after surgical control of sepsis and feeding jejunostomy. 4 patients with fistulas underwent surgical closure. Rest of the 7 patients died before the closure of fistula.

4. Discussion

The overall mortality in this series was 28%

Sex

There were 17 male and 8 female patients. 6 male patients (35.29%) & 1 female patient (42%) died. The difference in the mortality between male and female patients does not appear to be statistically significant (Chi-Square test)

Age

The mean age of patients was 38.12 years. In this study , mortality in patients >40 years is 57.14%, whereas in patients <40 years is 42.85%

Site of Fistula

Small bowel is the most common site of fistula. There are 14 cases of small bowel fistulas with 5 deaths (35.71% Mortality), while in the study by Altomare et al, was 44%[3]

There are 4 cases of fistula arising from stomach and duodenum, of which 3 closed while 1 patient died (25% mortality v/s 30% mortality Altomare et al). [3]

1 patient among 7 cases of colonic fistulas died (Mortality 14.28%)

Output

The mortality in high output fistulas observed in this study was 50% when compared to only 7.69% in patients with a low or moderate output fistula.

Grade of Fistula

Grade I: Through the drain site

Grade II: Single or multiple openings passing through abdominal wall close to bony prominences, surgical scars, umbilicus

Grade III: Fistula through small dehiscence of the main wound.

Grade IV: Fistula through a large dehiscence at the bottom of a gaping wound.

Majority of deaths were occurring in grade III and grade IV fistulas

Sepsis

In this study sepsis was present in 12 patients (48%), 7 of who died (Mortality 58.3%), compared with 0 of the 13 patients without sepsis (Mortality 0%)[3]

Sepsis is the most common cause of death in the patients with enterocutaneous fistulas.[2]

5. Conclusions

- Post operative fistula accounting for most of the enterocutaneous fistula (72%)

- Small bowel is the most common site of fistula, of which terminal ileal fistulas are more common
- Most of the fistulas occurring in emergency surgeries(76%)
- Appendiceal and colonic fistulas have a better prognosis when compared with patients with gastric and small bowel fistulas
- High output fistulas are associated with poor prognosis
- The presence of sepsis is associated with a poor prognosis and seems to be the most important cause of death in these patients
- Grade III and IV fistulas are associated with increased mortality
- Age and sex of the patient does not affect the outcome in patients with enterocutaneous fistula

References

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