

## The Role of Conservative Management with Total Parenteral Nutrition in Cases of Anastomotic Leak: A Study of 30 Cases

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### Abstract:

**Background:** Anastomotic leak is one of the most common complications in the early postoperative phase following anastomosis, especially in those cases where anastomosis is done in emergency conditions.

**Aim and Objective:** To determine the efficacy of conservative management with TPN in Cases of postoperative anastomotic leak.

**Methods:** This is a prospective study of 30 cases with postoperative anastomotic leak admitted in the department of general surgery, king George hospital, Visakhapatnam over a period of 1 year from September 2022 to august 2023.

**Results:** 25 cases (83.33%) showed spontaneous healing with conservative management by TPN. 1 case (3.33%) of high output anastomotic leak on pod-7, died on pod-11 after second surgery. 2 cases (6.66%) of anastomotic leak were managed with ostomies. Another 2 cases (6.66%) which were managed conservatively developed enterocutaneous fistulas in the follow up period.

**Conclusion:** With the aforementioned results, we believe, in cases of anastomotic leak, Conservative management with total parenteral nutrition and nil per orals is the treatment of Choice.

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### Introduction

It is a common complication in gastrointestinal surgery often dreadful and life threatening. It may be intestinal or pancreatic or biliary. Anastomotic leak is one of the most common complications in the early postoperative phase following anastomosis, especially in those cases where anastomosis is done in emergency conditions.

### Aims and Objectives

- To determine the efficacy of conservative management with TPN in Cases of postoperative anastomotic leak after bowel resection and anastomosis.
- Emphasizing the need of early nutrition parenterally in preventing the morbidity postoperatively in cases of anastomosis.

### Materials and Methods

**Place of study:** Andhra Medical College, king George hospital, visakhapatnam.

**Duration of study:** 1 year (September 2022 to august 2023).

**No. of subjects:** 30

### Inclusion Criteria

- Patients belonging to both sexes; male and female.
- Patients in the age group between 20-75 years.
- Patients presenting with peritonitis to the emergency.
- In patients where resection and anastomosis are done.

### Exclusion Criteria

- Patients in whom anastomosis is done electively,
- Patients with incomplete medical records,
- Patients referred from other hospitals post surgery.
- Tools for analysis: data tabulated in excel and results generated.

## Results

Out of 30 cases, 25 cases (83.33%) showed spontaneous healing with conservative management by TPN, supported by nil per orals, sufficient antibiotic cover, optimum fluid input, decompression of bowel with feeding jejunostomy tube, proper placement of drains, oxygen support, spirometry, administration of clexane, blood

transfusions and wound hygiene. 1 Case (3.33%) of high output anastomotic leak on pod-7, died on pod-11 after second surgery. 2 Case (6.66%) of anastomotic leak were managed with ostomies.

Another 2 cases (6.66%) which were managed conservatively with TPN developed enterocutaneous fistulas in the follow up period.

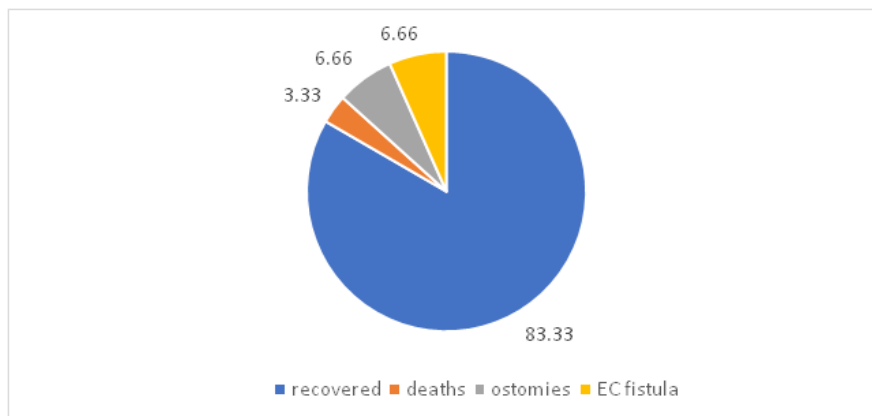


Figure 1:

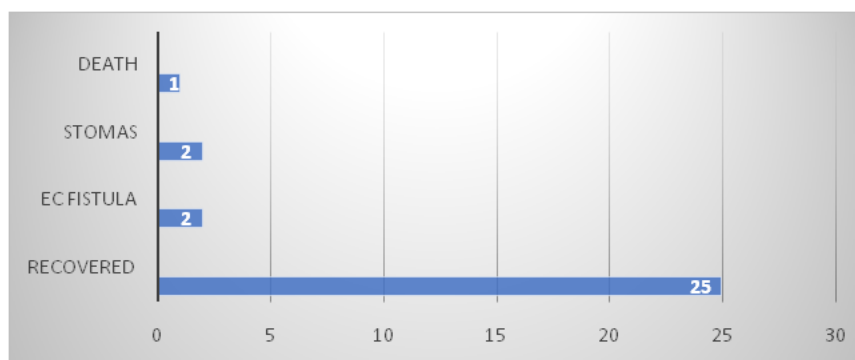


Figure 2:

## Conclusion

With the data mentioned above, we believe, in cases of anastomotic leak, Conservative management with total parenteral nutrition and nil per orals is the treatment of Choice.

Supportive management in cases of leak managed by TPN is done with

- Antibiotics to prevent systemic infection.
- Skin care with zinc oxide cream, adhesives, barriers, sealants, pouches
- Blood transfusion to optimise the hemoglobin.
- Rest to bowel by keeping the patient nil orally so that luminal secretions are reduced.
- Oxygen supplementation to prevent hypoxia.
- If there is abscess, bleeding, peritonitis, bowel ischemia re laparotomy is done.
- Timing of re exploration is in 24–48 hours once patient is stabilized.

## Discussion

Healing of GI wounds begins with a surgical or mechanical re apposition of the bowel ends, which is most often the initial step in the repair process. Failure of healing results in dehiscence, leaks, and fistulas, which carry significant morbidity and mortality.

The gross anatomic features of the GI tract are remarkably constant throughout most of its length. The submucosa is the layer that imparts the greatest tensile strength and greatest suture-holding capacity, a characteristic that should be kept in mind during surgical repair of the GI tract.

The importance of the serosa is underscored by the significantly higher rates of anastomotic failure observed clinically in segments of bowel that are extraperitoneal and lack serosa (i.e., the esophagus and rectum).

There are a multitude of factors responsible for anastomotic leak.

### Factors

Poor blood supply, sepsis, emergency resections, malignancy, old age, obesity, smoking, immunocompromised patients, fluid collection or abscess formation, steroid therapy (steroid prevents collagen formation and healing), hypotension and hypoxia on table and in immediate postoperative period, presence of drains, shock, malnutrition, deficiencies, stapler related factors, tuberculosis, Crohn's disease, electrolyte imbalance, anemia, malnutrition, etc.

Traditional teaching holds that in order for an anastomosis to heal without complications it must be tension-free, have an adequate blood supply, receive adequate nutrition, and be free of sepsis.

Although principles for all wound healing are the same, there are several considerations unique to anastomotic healing.

The amount of intravenous fluid administered perioperatively affects many aspects of recovery from colonic surgery. experimental and clinical data show that anastomotic healing may be adversely affected by overzealous fluid administration.

Wide array of investigations can be done to identify the site of leak.

### Investigations

USG abdomen, contrast GI studies, CECT abdomen, CT enteroclysis, endoscopies etc.

### Management

Anastomotic leaks can be effectively managed by assessment of the vital data, evaluation of the site of leak, quantifying the amount of leak and improving the general condition of patient by early administration of TPN.

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