



A COMPARATIVE STUDY OF WITZEL VERSUS CONVENTIONAL METHODS FOR FEEDING JEJUNOSTOMY

General Surgery

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ABSTRACT

The feeding jejunostomy tube is a method of delivering feeds through jejunal access in the small bowel. It is used when there is a contraindication to the placement of a gastrostomy tube. Although it is a relatively simple procedure, it can be associated with complications like bowel obstruction and metabolic abnormalities. **Aims and Objectives:** To assess the effectiveness of Witzel and Conventional/ Stamm Feeding Jejunostomy. and to assess the complication rates of Witzel and Conventional/ Stamm Feeding Jejunostomy. **Materials&Method:** A prospective randomized study conducted in at Department of Surgery, SSG Hospital, Vadodara during April 2021 to November 2022. all patients with elective and emergency procedures undergoing feeding jejunostomy were included. 40 patients with 20 patients in each group using simple randomization were studied for complication rate between two groups. **Results and Conclusion:** Out of 40 patients, major complications were seen in total 6 patients of Witzel feeding jejunostomy group and 13 patients of conventional (Stamm) feeding jejunostomy group. On calculating P value, significant difference was found between the two groups. Overall minor complications were seen in total 7 patients of Witzel feeding jejunostomy group and 15 patients of conventional (Stamm) feeding jejunostomy group, Which is statistically significant. Witzel and Stamm(conventional) both are equally effective techniques of feeding jejunostomy. The complication rates are more in conventional/ Stamm feeding jejunostomy as compared to Witzel feeding jejunostomy.

KEYWORDS

feeding jejunostomy, witzel, conventional(stamm), complications

INTRODUCTION

Parenteral nutrition is provided through a large vein in the central venous system. Enteral nutrition makes use of the gastrointestinal (GI) tract to provide nutrition. Enteral access can be obtained by passing a feeding tube through the nose (nasogastric and nasojejunal), mouth (orogastric) at the bedside. It can also be achieved by surgical implantation of a feeding tube into the gut, such as a feeding gastrostomy (stomach) or a feeding jejunostomy (jejunum).

Nasoenteral feeding tubes avoid the risk of peritonitis as the placement of these tubes do not require an enterotomy. However, they are easily displaced proximally or even completely displaced during vomiting or retching. While replacements can be done with radiological confirmation, 20% require more than one attempt and there is increased risk of the tube breaching a recent anastomosis. By contrast, a jejunostomy feeding tube is inserted under direct vision downstream to the most distal anastomosis and is not susceptible to postoperative displacement by vomiting. From the surgeon's perspective this is a good way to deliver the maximum calories with the least procedure related morbidity and mortality.

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AIMS AND OBJECTIVE

1. To assess the effectiveness of Witzel and Conventional/ Stamm Feeding Jejunostomy.
2. To assess the complication rates of Witzel and Conventional/ Stamm Feeding Jejunostomy.

MATERIALS & METHODS

Inclusion Criteria

All patients irrespective of age and sex & all elective and emergency abdominal surgery patient.

Exclusion Criteria

Patient not fit for surgery.

Study Design

The study will be conducted at Department of Surgery, SSG Hospital, Vadodara.

It is Prospective randomized control study.

It is proposed to have 20 patients in each arm of the study. This is calculated with 95% confidence level for 10% difference in the Complication rates between the two groups with power of the study being 80 calculated with help of SPSS software statistics.

Follow up after discharge at 1st, 2nd, and 4th weeks for:

1. Tube dislodgement.
2. Blockage of tube.
3. Peri tubal leak.
4. Leak into peritoneal cavity.
5. Entero cutaneous fistula.

Other complications e.g., small bowel obstruction, Diarrhoea, intra-abdominal abscess.

For diagnosing the above stated complications, along with clinical examination, following investigative modalities will be used:

1. X-Ray Abdomen
2. USG Abdomen

RESULTS

Among the 40 patients, 24 male patients and 16 female patients underwent feeding jejunostomy in which Witzel group had 13 male and 7 female patients while Stamm group had 11 male and 9 female patients.

Table No 1: Overall Complications In Witzel And Conventional (stamm) Method Of Feeding Jejunostomy.

Complications	Witzel method	Conventional (stamm)	P value
Leak into peritoneal cavity	2	3	0.6352
Tube dislodgement	2	7	0.04833
Jejunal perforation	0	0	0
Enterocutaneous fistula	1	2	0.548
Abcess(abdominal & cutaneous)	1	1	1
Overall Major complications	6	13	0.0266

Table No 2: Overall Minor Complications In Witzel And Conventional (stamm) Method Of Feeding Jejunostomy.

complications	Witzel method	Conventional method	P value
Tube block	3	7	0.144
Tube detachment	1	3	0.2918

Peritubal leak	3	5	0.4291
Diarrhoea	0	0	0
Overall minor complications	7	15	0.0110

DISCUSSION

The results of this prospective, randomized study show that Witzel feeding jejunostomy is as effective as Stamm (conventional) feeding jejunostomy.

Both the procedures are simple and can be done fairly quick. However, the complications rates are comparable.

Patients in both groups were comparable in terms of age, gender, and diagnosis. There were large number of males in both groups and most of the operations were emergency operations and performed by consultants.

In the study done by Paul A. Thodiyil et al (1), 5.94% and 7.9% major complications were seen in Witzel and Stamm method respectively. However, Jesus Tapia et al (2) study showed incidence of Major complications 8.6% in Witzel and 14% in Stamm method of feeding jejunostomy.

In our study, the incidence of major complications was 30% for Witzel group and 65% for Stamm group.

In the Paul A. Thodiyil et al (1) study the minor complications rate was 25.74% in Witzel and 20.80% in Stamm feeding jejunostomy. However, Jesus Tapia et al (2) study showed incidence of Minor complications 23.3% in Witzel and 30.66% in Stamm method of feeding jejunostomy.

In our study, Minor complications of feeding jejunostomy was 35% and 75% for Witzel and Stamm feeding jejunostomy respectively.

Overall, the rates of major and minor complications were higher in Stamm jejunostomy group as compared to Witzel jejunostomy group with p value of 0.0266 and 0.01104 respectively, which is statistically significant.

CONCLUSIONS

From this study, it can be concluded that Witzel and Stamm (conventional) both are equally effective techniques of feeding jejunostomy.

The complication rates are more in conventional (Stamm) feeding jejunostomy as compared to Witzel feeding jejunostomy.

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