Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 5, Issue, 08, pp.2311-2312, August, 2013

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

ISSN: 0975-833X

RESEARCH ARTICLE

TREATMENT OF HIGH OUTPUT ENTEROCUTANEOUS FISTULA. SHOULD WE BE DIFFERENT?

Dr. Prasad Sasnur, *Dr. Ravindra Nidoni, Dr. Tejaswini, V., Dr. Vikram Sindgikar and Dr. Shailesh Kannur

BLDEU's Shri. B. M. Patil Medical College, Bijapur (Karnataka)

ARTICLE INFO

Article History:
Received 09th May, 2013
Received in revised form
07th June, 2013
Accepted 04th July, 2013
Published online 23rd August, 2013

Key words:
Dynamic stretching;
Ballistic stretching;
Warm-up,
Vertical jump,
Basketball players.

ABSTRACT

Treatment of high output ECF is a challenging to the surgeon, especially in developing countries like India where the available resources and financial support to the patients are limited. The morbidity and mortality of these patients depend on nutrition. Providing nutrition by prolonged use of TPN is not feasible in all patients. Hence percutaneous T-tube placement is a simple technique which can be used to provide enteral nutrition. Apart from providing nutrition it has an added advantage of providing a mechanical support over the anastomotic site and it also help in decompressing the proximal bowel segment which help in healing process of the fistula.

INTRODUCTION

Enterocutaneous fistulas (ECF) continue tobe a challenging problem, occurring as a complication in0.8%–2% of abdominal operations[1], and they representa significant health care and economic burden. In1960, Edmunds et al. reported a mortality rate of 43% in157 patients with this condition [1]. In 1964, Chapmanet al. defined guidelines for conservative treatment, improving outcome over the following 10 decades[1]. Effluent of an ECF of more than 500 ml per day is considered as high output. Patients with high output ECF have a high morbidity and mortality rate. Managing these patients is complex and challenging. It involves nutrition, medical, skin care and psychological treatment, which is best managed by a multidisciplinary team. It requires an individualized nutrition and clinical treatmentplan to maximize patient outcomes. Up to 70% of patients with fistulae have malnutrition and it is a significantprognostic factor of spontaneous fistula closure[2].Nevertheless the mortality rate remains high, rangingbetween 5% and 37% [1].Electrolytic abnormalities and malnutrition occur inpatients with high-output fistulas despite attempts at parenteralreplacement. Prolonged immobilization andinfections increase catabolism, factors that in turn increasethe mortality rate to 60% [1] Providing nutrition by TPN, regular correction of electrolyte abnormalities and giving iv somatostatin are the three important measures in treating high output ECF which have brought down the mortality and morbidity significantly[3], but they are the major part of financial burden. These treatment protocols are possible in the western countries where financial support is not a limiting factor. Where as in developing countries like India patients may not afford to follow this treatment protocol for such a long time and hence morbidity and mortality are still higher than what is seen in western countries. Hence there is a need to adopt a technique which can redirect the fistula secretions into the distal bowel and also provide a safe method of enteral nutrition. Percutaneous T – tube placement across the fistulous opening is one such technique and we are reporting it.

***Corresponding author:** Dr. Ravindra Nidoni,
BLDEU's Shri. B. M. Patil Medical College, Bijapur (Karnataka)

Case

we received a 12 year old male patient with a history of trauma to the abdomen 60 days back and received treatment in a peripheral centre where he underwent exploratory laparotomy and primary closure of the jejunal perforation which was 10cm distal to teitz ligament after 2 days of trauma. Post operatively patient developed high output ECF from the midline incision site. This was treated conservatively for around 40 days and resurgery was attempted to close the fistula. But the surgeons could not separate the segment of bowel with fistula as there were dense adhesions and hence had to halt the surgery with no attempt to repair. Followed by this failed attempt patient was referred to our hospital. When we received the patient in casualty, patient was cachexic, severely dehydrated, severe excoriations were present all over the abdomen and effluent was draining out through a small opening from the midline incision. Pulse rate was 120 bpm and BP was 80/50 mm of Hg. Chest auscultation revealed bilateralronci and wheezes. He was weighing 20kg. Immediate resuscitation was started with iv fluids and investigations were sent. He responded well to resuscitation and his BP raised to 100/60 mm of Hg. Investigations revealed Hb – 6.5gm/dl, TLC – 4200/cu.mm, PCV – 42%, blood urea – 76, serum cretinine – 2, RBS – 56, total protein – 4gm/dl and albumin – 1.8gm/dl, sodium – 123 meq , potassium – 2.1meq, chloride - 97 meq, and calcium – 8.1. Electrolyte abnormalities were corrected. CT scan revealed a fistula from the jejunum with tract being less than 2cm, with a small collection around the tract and patent distal bowel. Chest x – ray showed bilateral pneumonitis. The output from the fistula was 1000ml/24hrs. With these parameters patient was

offered a conservative line of management including TPN to improve nutrtion and antibiotics to check infection. But financial condition of the family was poor. Hence it was decided to place a T – tube percutaneously in local anaesthesis as patient was not fit for any form of anaeshesia.

Technique

Local anaesthesis infiltrated to the skin and subcutaneous tissue around the fistula. The previous laparotomy scar opened one cm on either side and dissection done to expose the fistula tract. Surrounding collection was evacuated. Collection was localized around tract. Thorough wash was given. Then the tract was inserted with a 14 F T-tube such that one limb was in the proximal jejunum and other in the distal jejunum. Theedges of the proximal and distal bowel was repaired over the T limb. The overlying skin sutured along the incision. Post operatively Patient was kept NPO for next 5 days. The T – tube was kept open to decompress the contents of the proximal bowel so as to reduce the intraluminal pressure acting on the repaired fistulous opening. On 5th postoperative day feeding was initiated through T-tube initially with 30ml/4hr and slowly increased to patient's requirement. Patient was also started with oral feeds later. Patient responded very well in the form of weight gain, improvement in the general condition, Hb%, total protein and albumin level. The excoriation healed within a week. There was no electrolyte imbalance any time following T-tube placement and feeding through it. Patient was trained about feeding and discharged home after 10 days. He was called for follow up once in a week and progressive improvement in the nutrition and control of infection was noted.

Fig 1. Immediately after T- tube placement

Fig 2. 1 week after T-tube placement

DISCUSSION

Malnutrition is a major concern in patients with high output ECF. In particular, hypoproteinaemia leads to increased frequency of wound dehiscence, greater risk of infection, and decreased muscle bulk and function. In addition, fibroblast activity is reduced, delaying wound healing and fistula closure[4]. As complication rates are higher in malnourished patients, nutritional support should be initiated as early as possible in the management of ECF. There are three potential mechanisms through which a fistulamay induce malnutrition: lack of food intake, loss of protein and energy rich fluid in fistula discharge, and hypercatabolism associated with sepsis[4]. Small bowelsecretions can lead to daily losses of approximately 75 g of protein and approximately 12 g of nitrogen, comprised of desquamated cells, plus pancreatic exocrine, biliary, succusentericus, and gastric secretions[4]. Under normal circumstances the majority of this nitrogenous material is reabsorbed as free amino acids but in high output ECF much of this protein is lost.

With high output fistulae, patients should receive 1.5–2 times their basal energy expenditure plus 1.5–2.5 g of protein per kg body weight per day. This nutritional regimen should also include twice the recommended daily allowance (RDA) for vitamins and trace minerals, up to 10 times the RDA for vitamin C, and zinc supplements[4]. The role of artificial nutrition, provided as either total parenteral nutrition (TPN) or enteral nutrition (EN), is primarily that of supportive care to improve the malnourished status of the patient. TPN has been the mainstay of conservative management of gastrointestinal fistulae throughout the last three decades. However, the use ofTPN can be associated with potentially serious complications such as bacterial translocation, superinfection of central venous access, and metabolic disorders as a result of fistula losses[4].Apart from this providing TPN for such a long time is a very costly which may not be feasible in developing countries like India. Hence percutaneous T-tube intubation can be used to provide nutrition support. It helps in redirecting the secretions into distal bowel and hence prevent loss of nutrient rich secretions. It also helps in providing a route for enteral feeding hence replacing TPN. T limb also helps in providing mechanical stabilization over which proximal and distal bowel loops can heal. It also helps in decompressing the anastomotic site by draining the contents out. Hence this method provides 3 important factors required for successful anastomosis healing and they are nutrion, mechanical support and decompression of the anastomotic site. These patients do not require frequent electrolyte analysis as electrolyte imbalance is uncommon when receiving enteral nutrition. This technique is specifically more suitable in patients with dense interloop adhesions, high risk patients for anastomosis and who are nutritionally poor. Thus percutaneous T-tube intubation significantly reduces the cost, electrolyte imbalance and complications associated with TPN. It is a better option for high output ECF and more so when resurgery is not feasible because of dense adhesions. Thus at the end our report we conclude that, yes we (Indians) need to be different from western countries when it comes to treating high output ECF patients by adopting this technique routinely.

Conclusion

Percutaneous T-tube intubation and feeding through it is a simple technique which can be adopted as a modality of treatment for high output ECF in developing countries like India.

REFERENCES

1. Daniel Edgardo Wainstein, Ernesto Fernandez, Daniel Gonzalez, Osvaldo Chara, Dario Berkowski. Treatment of High-output Enterocutaneous Fistulas with aVacuum-compaction Device. A Ten-year Experience. World J Surg (2008) 32:430–435.
2. Chung Yan Tong RD, Li Lin Lim, Rebecca A Brody. High output enterocutaneous fistula: a literature review and a case study. Asia Pac J ClinNutr 2012;21 (3):464-469
3. Dr. Ghulam Mustafa Arain, Dr. Kush Mohammad Suho, Dr. Mohammad RehmanGulzar, Dr. WaseemSadiqAwan. Enterocutaneous high output fistulae; octreotide an effective tool in management. Professional Med J Dec 2010; 17(4): 538-542.
4. I González-Pinto, E Moreno González. Optimising the treatment of upper gastrointestinal fistulae. Gut 2001 49: iv21-iv28.

****