



A RARE DELAYED PRESENTATION OF ENTEROCUTANEOUS FISTULA POST INCISIONAL HERNIA REPAIR

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ABSTRACT

Enterocutaneous fistula is an abnormal connection between the intestine and the skin. It remains a big challenge to surgeons even in this era of advanced medical science with a mortality of 5-15%. (Haack et al., 2014) It also has a negative impact on the lives of patients and requires a long time of non-operative or operative management with a multi-disciplinary approach. At today's date maximum research and studies available for management of spontaneous EC fistula, occurring within days of abdominal surgery.

Here we are presenting a rare delayed presentation of EC fistula as a case of 63-year-old female presented with fecal discharge from scar site after 20 years of previous abdominal surgery, with CECT Abdo + pelvis scan s/o small bowel entero-cutaneous fistula, managed with pre-op optimization and excision of fistula with resection and primary end to end anastomosis of small bowel.

KEYWORDS : EC fistula, abdominal surgery, fecal discharge, excision of fistula.

Case report

A 63-year-old female presented to our emergency with history of pain in abdomen for 10 days and discharge of fecal matter from a wound over the anterior abdomen for 3 days. Patient has history of undergoing total abdominal hysterectomy 20 years back following which within 6 months she developed incisional hernia around the umbilicus. The patient underwent incisional hernia repair with mesh placement in the same year.

On examination, patient was vitally stable and no tenderness, guarding, rigidity over the abdomen and 2x2 cm wound was seen in the infra umbilical region through which fecal discharge and part of prosthetic mesh was seen. Daily output of fistula increased from 100ml per day to 500-600ml per day. Patient's routine investigations showed to be on the lower side of hemoglobin and albumin. But other parameters were in the normal range. The computed tomography showed mid ileal loop herniating through the mesh and the anterior abdominal wall in the infra umbilical region. Patient underwent exploratory laparotomy where the enterocutaneous fistulous tract was excised and resection anastomosis of the ileal segment was done. Histopathology showed ulcerative acute inflammation with foreign body type of granulomatous reaction. The patient recovered well and was discharged home on post-operative day 12 after suture removal on full diet.

DISCUSSION

Enterocutaneous fistula is an abnormal connection between

the intestine and the skin. Usually seen in as an acute complication after surgery during patient stay in hospital itself, in this case it has been a rare case of complication 20 years post-surgery. Ileum is the most commonly involved part of the gut. This is a common complication seen after abdominal surgeries owing to conditions such as bowel injury, anastomotic leak and surgeries in presence of malignancy. (Weledji, 2017) A late presentation of this complication has been seen in our case stemming from the prosthetic mesh placed for the incisional hernia repair. (Thirumalagiri et al., 2014) The treatment of spontaneous ECF is mainly done by treatment of the sepsis, managing the electrolyte and fluid imbalance, nutritional support, wound management and surgical treatment.

Since, this case was a delayed presentation, the pre-operative stabilization was a very mainstay of the management. On admission the patient's albumin and hemoglobin levels were on lower range. Patient was given as her fistula was high output so we had given her parenteral albumin and TPN along with oral intake to better her general condition. The sepsis is managed by antibiotics, while electrolyte imbalance is treated using crystalloids.

According to Dr. Bhama's report of Evaluation and Management of Enterocutaneous Fistula, TPN is the preferred mode of nutritional pathway in these patients, especially in those with high output fistulas. (Bhama, 2019) While, Luis Alfonso Ortiz et al. report on management of ECF, shows that enter intraluminal nutrition increases the perfusion of the

messenger equivalent what is important and better wound healing. In our patient, since she had a high output fistula i.e. > 500 ml of output over 24 hours, we started with total parental nutrition initially, with minimal enteral feeding, hence keeping her on both parenteral and enteral nutrition.



Figure 1 - enterocutaneous fistula with fecal discharge

Coming to the wound, stoma care was given using different stoma appliances such as bags and creams so as to prevent excoriation of the surrounding skin with the fecal matter. (Dodiya-Manuel & Wichendu, 2018) A spontaneous closure can be sought for by managing the patient conservatively for 4-6 weeks. But only about 30% of them tend to get spontaneously closed, that too when there are favorable conditions such as a low output fistula, well-nourished status, a smaller enteric defect. (Haack et al., 2014)

A definitive management is done surgically, prior to which radiological investigations are done for a better knowledge of the etiology and plan the required surgery. The anatomy needs to be defined for planning of surgical management. Various radiological methods are used for the same, such as fistulography, CT and MRI. They help us in visualizing the underlying conditions, such as an anastomotic leak in immediate post op conditions, any underlying tumor, or associated abscesses. The radiological study also helps in deciding the intervention needed and decreases the rates of failed conservative treatment. (Tonolini & Magistrelli, 2017) (Munnangi et al., 2020)

On Computed tomography of abdomen and pelvis in this case, the ileal loop was seen herniating through the mesh on to the anterior abdominal wall directing towards the point that the fistula has occurred due to prolonged foreign body reaction due to the mesh with the intestine. This helped in understanding the plane of surgery required.

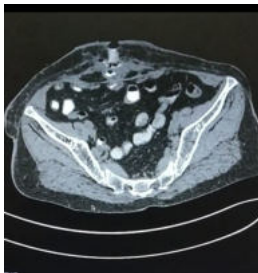


Figure 2: -Contrast CT image of the ECF in the axial plane.

After pre-op optimization and radiological diagnosis with anatomical assessment patient was taken for elective surgery and intraoperatively excision of fistulous tract with resection of small segment of ileum along with end to end anastomosis of ileum done.



Figure 3: Resection anastomosis of small intestine



Figure 4: Excised enterocutaneous fistula.

Danylo Yershov et al. have reported a case of enterocutaneous fistula formation 34 years after panproctocolectomy for ulcerative colitis due to an inverted non-absorbable suture. (Yershov et al., 2020) Suzuki et al. reported a case of fistula formation into the appendix and the bladder 8 years after a Kugel inguinal hernia repair with mesh. Shinichi Fukuhara et al. reported a case of an Enterocutaneous Fistula 10 years after urethral suspension surgery (Marshall-Marchetti-Krantz Procedure) for urinary stress incontinence. (Fukuhara & Sekons, 2012)

CONCLUSION

EC fistulas have always been an important immediate post operative complication. But in the past few decades, with the development of better techniques for providing nutrition, wound healing techniques, the morbidity and mortality associated with it has considerably reduced. But this was one of the rare cases, where the complication was a delayed presentation. There was requirement of extensive pre operative work up including the patient's general condition, the decision of the surgery, and timing of the surgery.

REFERENCES

- Bhama, A. R. (2019). Evaluation and Management of Enterocutaneous Fistula. *Diseases of the Colon and Rectum*, 62(8), 906-910. <https://doi.org/10.1097/DCR.0000000000001424>
- Dodiya-Manuel, A., & Wichendu, P. N. (2018). Current concepts in the management of enterocutaneous fistula. *International Surgery Journal*, 5(6), 1981. <https://doi.org/10.18203/2349-2902.isj.20181836>
- Fukuhara, S., & Sekons, D. (2012). Extremely delayed presentation of an enterocutaneous fistula after Marshall-Marchetti-Krantz procedure. *Urology*, 80(6), e75. <https://doi.org/10.1016/j.urology.2012.08.019>
- Haack, C. I., Galloway, J. R., & Srinivasan, J. (2014). Enterocutaneous Fistulas: A Look at Causes and Management. In *Applied Physics B: Lasers and Optics* (Vol. 2, Issue 10, pp. 1-10). Springer Verlag. <https://doi.org/10.1007/s40137-014-0071-0>
- Munnangi, S., Singh, S. K., Huda, F., Ravikumar, A., & Gajula, B. (2020). Delayed presentation of enterocutaneous fistula after tubal ligation: a case report. *International Surgery Journal*, 7(9), 3143. <https://doi.org/10.18203/2349-2902.isj.20203812>
- Thirumalagiri, V., Hemachandra, T., Poliseti, R., & Satwalekar, R. (2014). Late ileocutaneous fistula due to onlay mesh fixation after incisional hernia repair. *Journal of Dr. NTR University of Health Sciences*, 3(2), 107. <https://doi.org/10.4103/2277-8632.134851>
- Tonolini, M., & Magistrelli, P. (2017). Enterocutaneous fistulas: a primer for radiologists with emphasis on CT and MRI. In *Insights into Imaging* (Vol. 8, Issue 6, pp. 537-548). Springer Verlag. <https://doi.org/10.1007/s13244-017-0572-3>
- Weledji, E. P. (2017). Perspectives on Enterocutaneous Fistula: A Review Article. *Medical & Clinical Reviews*, 03(02), 5. <https://doi.org/10.21767/2471-299x.1000047>
- Yershov, D., Murphy, P., & Ferguson, H. (2020). Delayed enterocutaneous fistula formation secondary to an inverted non-absorbable suture post midline laparotomy closure. *International Journal of Surgery Case Reports*, 72, 402-405. <https://doi.org/10.1016/j.ijscr.2020.05.035>