

# Spontaneous Closure of a Complex Postoperative Enterocutaneous Fistula Assisted by ON101 Botanical Topical Cream: a case report

Yi-Chun Huang, MD

Department of General Surgery, Taitung MacKay Memorial Hospital, Taitung City, Taiwan

## Introduction

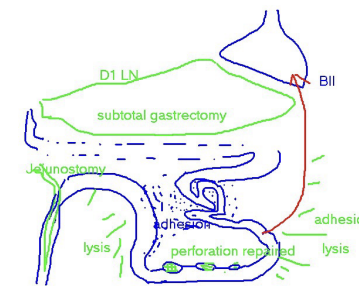
Enterocutaneous fistula (ECF) is a severe postoperative complication with high mortality (up to 33%) and low spontaneous closure rates in only about one-third of cases. Standard conservative management often fails in fragile patients with "FRIEND" factors, such as infection, malnutrition, and malignancy. **This case reports the world's first successful spontaneous closure of a complex ECF using ON101, a topical cream that helps maintain an optimized wound microenvironment, offering a novel non-surgical strategy for difficult-to-heal fistulas.**

## Results

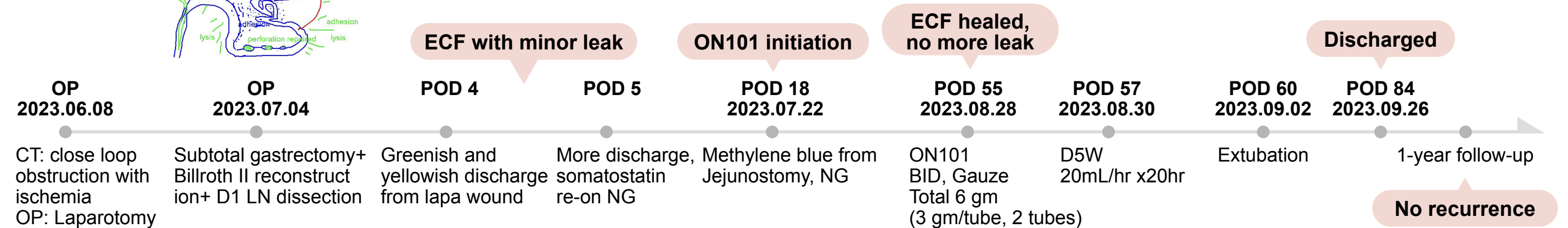
The ECF achieved complete spontaneous closure by POD 55. The initiation of the ON101 was associated with the rapid granulation tissue growth and progressive fistula tract obliteration. This closure allowed for the re-initiation of enteral feeding and successful hospital discharge. One-year follow-up assessments confirmed no recurrence of the fistula, implicating a stable and durable recovery.

## Methods

A 79-year-old male developed a postoperative leak ECF following a subtotal gastrectomy and Billroth II reconstruction. The patient's condition deteriorated, marked by a cascade of severe systemic complications, including hyperglycemia, pneumonia with respiratory failure, and acute kidney injury. On postoperative day (POD) 18, ON101 was initiated alongside wet-to-dry dressing covered by gauze. The cream was applied twice daily to the ECF sites to maintain a protective, optimized mechanical environment conducive to tissue regeneration. A total of only 6 grams of ON101 was consumed over a 37-day period (POD 18-POD 55).



## Hospital Course



## Discussion and Conclusion

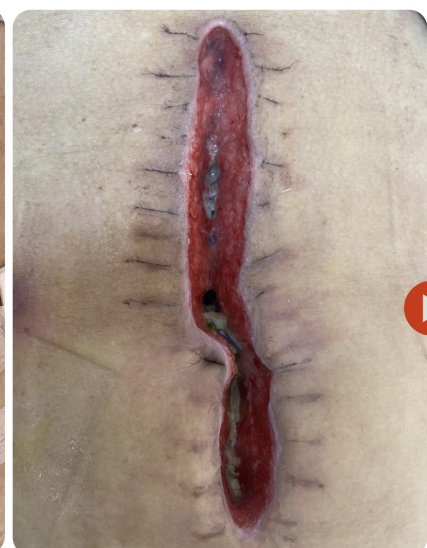
This case suggests that ON101 may serve as a promising adjunct in the conservative management of complex ECF, even in the presence of sepsis, malnutrition, and multi-organ dysfunction. **Fistula closure occurred at POD 55, a timeframe in which spontaneous healing is uncommon, particularly as ON101 was used for only 37 days.** By modulating the wound microenvironment despite ongoing enteric contamination, ON101 may help reduce the need for high-risk secondary surgery. This case provides early clinical insight into the potential utility of ON101 in complex post-surgical wound management, particularly in wounds complicated by ECF and peri-wound breakdown.

### Significant Healing Transformation of Enterocutaneous Fistula (ECF)



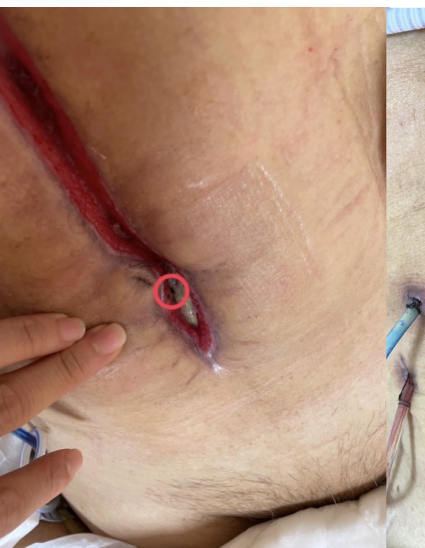
**Before ON101 Treatment (POD 5-18)**

Open wound with profuse yellow-green enteric leakage and surrounding skin maceration.



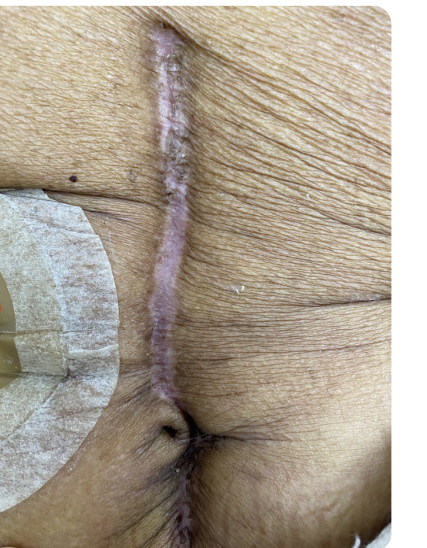
**During ON101 Treatment (POD 20-40)**

Intestinal fluid leakage has decreased, with healthy red granulation tissue forming at the fistula site.



**POD 55**

The fistula has healed.



**POD 100**

The fistula showed no recurrence.

### An Elderly Patient With Life-threatening Multi-organ Failure

#### TPN Nutrition and Metabolism Infection and Inflammation

- TPN-dependent
- Blood sugar >6 00 mg/dL
- Total bilirubin: 5.8 mg/dL

- Recurrent fever, pneumonia
- *Klebsiella pneumoniae* infection
- Acalculous cholecystitis

#### Respiratory System

- Intubation on 2023/08/16
- Pleural effusion

#### Renal Function

- Acute kidney injury with hyperkalemia
- Two sessions of hemodialysis

