Neonatal Abdominal Incision Dehiscence and Treatment

Tess Aberg, MSN, FNP-BC, CWON, Sarah Wilhite, BSN, RN, CWON, and Dr. Simone Hyman
Rady Children's Hospital

Case Summary

This case highlights the complex postoperative wound management of a female infant with a history of meconium pseudocyst and traumatic abdominal entry during an emergent cesarean section for failure to progress. On day of life 0, the patient underwent creation of an ileostomy and mucous fistula. At five months of age, she underwent elective ostomy and mucous fistula takedown, which was complicated by an anastomotic leak, leading to multiple subsequent surgeries. Ultimately, a diverting jejunostomy and an ileal mucous fistula were created. Her hospital course was further complicated by prolonged hospitalization, Pseudomonas bacteremia, and the development of an enterocutaneous fistula.

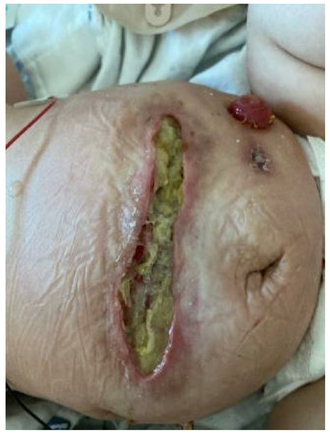
On postoperative day (POD) 12 following the jejunostomy and ileal mucous fistula creation, the inpatient wound care team was consulted for evaluation and management of a dehisced transverse abdominal incision. An enzymatic debriding agent was applied for 14 days to promote a clean wound bed. On POD 26, a gentian violet and methylene blue–impregnated foam dressing was initiated and changed three times weekly for three weeks. By POD 48, the incision had fully closed, with only a small area of hyper-granulation tissue remaining. This was successfully managed with a silver-impregnated silicone adhesive foam dressing over 14 days.

This case underscores the importance of interdisciplinary collaboration and staged wound care interventions - including debridement and antimicrobial foam dressings - in successfully closing complex pediatric postoperative wounds.

Patient History

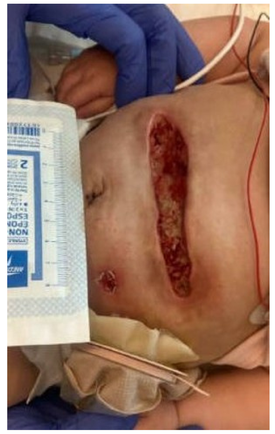
Female born 9/24/2024 at 38 weeks + 2 days
Birth weight: 3.15 kg
Patient born at outside hospital with body dystocia and a large abdominal laceration (RUQ) leaking serosanguinous fluid
APGARs were 2 @ 1min and 4 @ 5 min which required resuscitation via bag/mask PPV and eventual intubation – transferred to RCHSD for evaluation of hypoxic ischemic encephalopathy (HIE) and surgical evaluation/interventions

Baseline: 3/17/25
Wound size: 2.3cm x 10cm x 1.5cm



Periwound erythema

Adherent yellow slough with rolled/thickened/irregular wound borders with erythema



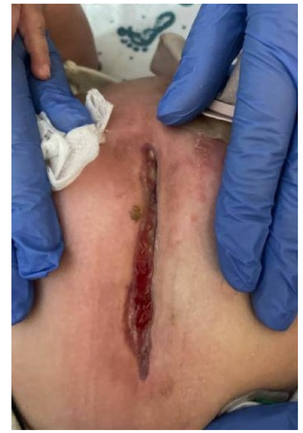
Surgical dehisced abdominal incision

Adherent yellow slough, viable non-granulating + granulation tissue, exposed abdominal fascia, erythema to wound edges improved

Week 1

Abdominal wound with stool effluent noted in left lateral aspect – confirmed enteroatmospheric fistula

Week 2

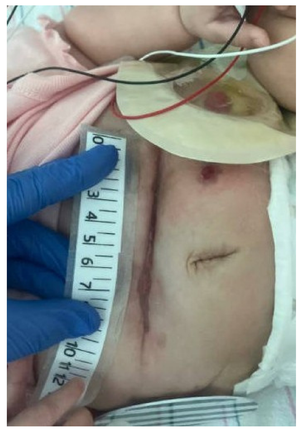


Fistula resolved

Slight hypergranulation tissue noted to right lateral aspect

No slough; Wound edges with reepithelization noted and without erythema

Week 3



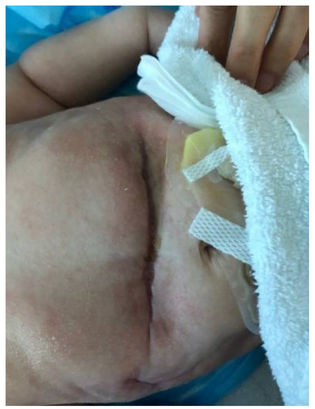
Significant reduction in measurements with healthy granulation tissue, re-epithelialization and no erythema to wound edges

Week 4
Wound size: 0.25cm x 0.3cm x 0cm

Hypergranulation tissue to right lateral aspect

Re-epithialization and approximated wound edges without erythema

Week 5



Healed/approximated wound edges without erythema