The use of Activon Tube® on a Neonatal abdominal wound

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Introduction

In paediatrics, surgical wound infections rarely require intervention and heal well with minimal scarring, however in the pre-term neonatal population, there are many factors which may adversely affect the healing process. This case illustrates the management of an abdominal wound in the context of prematurity, poor lung function, infection and poor nutrition.

A baby boy born at 29+1 weeks gestation, weighing 1086g was transferred to a paediatric surgical centre at five and a half weeks of age (corrected age 34+5) with a diagnosis of intestinal obstruction. At laparotomy, with an upper transverse incision, a milk curd, obstructing the distal ileum, was identified. Enterotomy was required to remove the obstruction and a right inguinal hernia was repaired at the same time.

Case Study

The laparotomy wound was closed with internal sutures and external steri-strips. The patient was transferred to the Neonatal Intensive Care Unit post operatively.

Day 5 post-op

Ventilation deteriorating, due to right side consolidation.

Abdomen distended, tender, bilious nasogastric aspirate.

Abdominal x-ray was reported as normal.

Bowels were opened.

Laparotomyl wound intact.

Temperature 37.4oc

Drug therapy: antibiotics and analgesia.

Day 6 post-op

Ventilation improved, oxygen requirement reduced.

Abdomen less distended and less tender.

Minimal nasogastric aspirate and bowels continued to open.

Wide spread general oedema.

Apyrexial.

Abdominal wound: Steri-strips removed, surrounding skin erythematous, superficial dehiscence and exudate present. Abdomen immediately below wound very firm. Wound left exposed.

Drug therapy: antibiotics changed in response to sensitivity results. Endotracheal tube swabs grew E. Coli.

Day 7 post-op

Extubated, self ventilating in air.

General oedema reduced.

Abdomen: reduced erythema and no distension.

Abdominal wound: shallow cavity with slough on right side.

The aim of wound management was to remove slough and exudate, encouraging healing from the base of the cavity and restoring the skin barrier. The concern was that the dehiscence would continue along the length of the whole wound.

The challenge was to use a dressing which could be instilled into such a small area effectively (small in actual terms but large in relative terms as the patient weighed 1600g at this stage) and at the same time protecting a wound in such close proximity to the nappy area. Pain relief was also important before dressing changes.

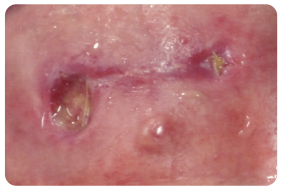
Initial wound management

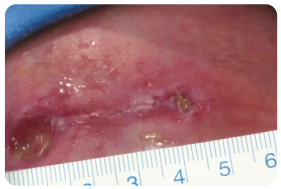
Hydrogel instilled into cavity, and covered with a secondary Hydrocolloid dressing. This has been our practice for infected surgical wounds. Our protocol is to seek advice from a Bacteriologist for appropriate antibacterial therapy and the Tissue Viability Team in difficult cases.

Paracetamol given before dressing changes.

Daily dressing changes for 16 days.

Day 20 post-op





Day 23 post-op

New small cavity left side of wound observed and a larger cavity right side of wound.

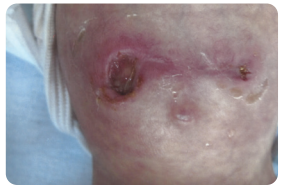
Minimal granulation, slough present, erythema. Subcutaneous sutures visible.

Wound swab – normal skin organisms.

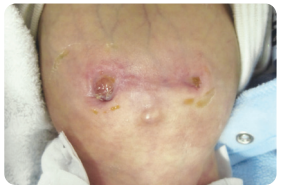
Treatment changed to Activon® Manuka honey, covered by a secondary low adherence silicone dressing.

Daily dressing changes for 3 days.

Day 24 post-op



Day 25 post-op

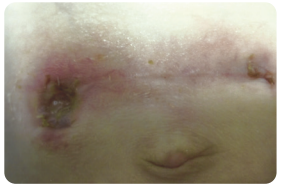


Reduction in size of cavities and area of erythema. No slough. Granulation progressing. Parents report no paracetamol needed for dressing changes since using low adherence dressing.

Day 26 post-op

Dressing changes reduced to every 2 days.

Day 28 post-op



Cavity left side healed. Cavity right side granulating. No slough.

Visible suture removed.

Short course Flucloxacillin to aid healing.

Blood parameters and glucose levels normal.

Dressing changes reduced to every 3 days.

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Day 29 post-op

Discharged home. Parents changing dressings with continuing support from Community Nursing Team.

The patient initially received parenteral nutrition via a peripherally inserted central line until full enteral feeds of breast milk were established by day 14 post-op. Weight gain remained poor throughout the healing process. Additional oral sodium chloride was given to improve nutritional support as the urine sodium was low.

Conclusion

This was a difficult abdominal wound to manage in a pre-term baby with poor growth and post-op chest infection. Wound healing delayed discharge. Initially for 2 weeks the wound deteriorated with our usual wound management. On post-op day 23 the wound product was changed and on day 26 a marked improvement was seen. The frequency of dressing changes was reduced and by post-op day 29 the wound was sufficiently healed to enable the patient to be discharged home, with parents managing the dressing changes.

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