

A CLINICAL CASE STUDY ON A DEHISCED ABDOMINAL WOUND USING PRONTOSAN® IRRIGATION SOLUTION AND PRONTOSAN® WOUND GEL X

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Introduction

Wound infection in the post operative wound can cause quite significant problems, resulting in potential wound breakdown. Although post operative wound infection can lead to a small superficial dehiscence, it can also result in a complete dehiscence of deeper tissues and in some instances cause exposure of both small and large bowel. Certain surgical interventions can also lead to increased incidence of wound dehiscence; these include procedures for colon diseases, peptic ulcer disease and emergency laparotomy.

Management of dehisced wounds may include immediate surgery if bowel is protruding from the wound. If surgery is not needed, management is essentially the same as that of any other wound through maintenance of a moist wound environment, reduction of bioburden and pain and promotion of granulation tissue. Mortality rates associated with dehiscence have been reported between 14% and 50% (Hanif et al., 2000; Waqar et al., 2005).

Staphylococcus epidermidis is one of five most common organisms that cause noscomial infections due to the increase in usage of biomaterials in the clinical environment. The noscomial pathogen causes infections on prosthetic valves, cerebrospinal fluid shunts, joint prosthesis' vascular prostheses, valves and in postoperative wounds and the urinary tract.

A common staphylococcus epidermidis strain RP62a (ATCC 35984) is a strain that produces slime, grows collectively and forms biofilm. The ability to form biofilm is one of the virulence factors. The biofilm allows the bacteria cells to adhere to inert or living areas. When a biofilm has formed it becomes harder to treat since the cells inside the biofilm are guarded from antibiotics and the immune system. Biofilm also releases a host immune response to antigens which prevents the removal of the biofilm and may also result in tissue damage.

Patient

Mrs X is a 72 year old lady who is normally mobile with an active social life. She lives with her husband who shares in the household chores.

Mrs X was admitted into hospital for a routine vaginal hysterectomy and was discharged after an uneventful recovery three days later. One week later she was readmitted into accident and emergency after being found by her husband collapsed on the bathroom floor.

On examination Mrs X was found to have a distended abdomen, renal failure and septic shock. An emergency laparotomy confirmed a post-operative infected haematoma.

Nine days following her surgery, blood results revealed a white cell count of 51, a clear indicator of severe sepsis. A second laparotomy identified perforated bowel loops and a bowel resection was performed.

The wound dehisced eight days after Mrs X second laparotomy, revealing extensive tissue necrosis to the right side of the wound and a wound swab revealed staphylococcus epidermidis.

The tissue viability team were contacted to assess the suitability of NPWT but due to the wound necrosis and evidence of fistuli formation, this was deemed inappropriate.

The decision was made to use Prontosan® Irrigation Solution and Prontosan® Gel X to remove biofilms and debride necrotic tissue.

The wound was photographed prior to commencing treatment (Fig 1, Day 1)

Method

A layer of gauze soaked in Prontosan® Solution was placed onto the wound bed for 15 minutes prior to applying Prontosan® Gel X. The wound bed was lined with absorbent pad which was covered with absorbent foam. It was agreed to change the dressing every 2nd day.

Results

Day 7.

A further photograph was taken (Fig 2). The necrosis had reduced by 60% and the treatment continued.

Day 17.

The photograph (Fig 4) shows evidence of 40% size reduction and necrotic tissue minimal.

Day 10.

A further photograph was taken (Fig 3), revealing reduction in wound size and necrosis.

Day 27

(Fig 5 and 6)



Fig 1 - 09/08/2011



Fig 2 - 16/08/2011



Fig 3 - 19/08/2011



Fig 4 - 26/08/2011



Fig 5 - 05/09/2011



Fig 6 - 13/09/2011

Discussion

Nursing staff found the application of Prontosan® Solution and Prontosan® Gel X simple and straightforward.

We felt that the use of 15 minute Prontosan® Solution soak, for cleansing and preparing the wound bed, followed by application of Prontosan® Gel X, for continual debridement and reduction of bioburden between dressing changes, helped to reduce wound size and necrosis over the 27 days of observed treatment time.