

Case Series: Effective Treatment of Challenging Surgical Wounds Using Sodium Polyacrylate Combined with Modified Collagen Plus Glycerine

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Introduction

- Wound bed preparation (WBP) is the process of removing local barriers to wound healing so as to maximize the potential for successful healing. It can be achieved through debriding non-viable tissue, pathogen, contaminants and foreign material and also drains areas of infection.
- This is a case series of variety of wound dehiscence and pressure ulcer which successful treatment combination dressing using sodium polyacrylate(Gold Dust) combined with modified collagen plus glycerine (Stimulen).

Case Reports

- Case 1: A 31 year old lady post operative laparotomy for multiple bowel perforation and complicated with wound dehiscence.
- Case 2: A 57 year old woman known case of periamullary carcinoma. Developed burst abdomen and wound dehiscence post whipple procedure.
- Case 3: A 35 year old known case of colon cancer which complicated with wound dehiscence post laparotomy.
- Case 4: A 39 year old lady postoperative laparotomy for intestinal obstruction which complicated with surgical wound infection.
- Case 5: A 47 year old female with morbid obesity and multiple co-morbid, developed large pressure ulcer.

Methodology

- For the wound dehiscence cases, depending on the size of the wound, half a pack to 1 pack of Gold Dust 3g sachet was mixed with sterile water to turn it into a paste. Stimulen was added onto the paste and packed into the wound with gauze and Gamgee as secondary dressings. Dressing change is daily for highly exudating wounds and every other day for moderate exudating wounds.
- For the pressure ulcer, initially 4 packs of Gold Dust was used daily tapering down to just 1 pack every other day till patient was discharged to another hospital out of Kuala Lumpur.

Results

- All the 4 cases of wound dehiscence showed remarkable improvement within 3 weeks with exudate and infection under control and reduction in wound size. The pressure injury wound was recovering well until patient requested to be transferred back to a hospital near her hometown.

Discussion

- Difficult non healing wound contains exudate with high levels of inflammatory mediators like matrix metalloproteinases (MMPs)(1), polymorphonuclear granulocyte-derived elastase (PMN elastase), increase activities of protease and high concentration of free radicals(2). Removal of the above have therapeutic effect on granulation tissue formation and WBP(1). Sodium polyacrylate(Gold Dust) have this effect. Collagen creates the most physiological interface between wound surface and its environment and it is impermeable to bacteria(3). Collagen also inhibits the actions of MMPs and facilitate migration of fibroblasts into the wound(4).

Conclusion

- Combination of wound dressing using sodium polyacrylate (Gold Dust) with modified collagen plus glycerine(Stimulen) gives a good result for managing difficult wound due to post operative as well as pressure ulcer.

References

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Case 1



Before



After 3 week

Case 2



Before



After 3 days

Case 3



Before



After 24 days

Case 4



Before



After 16 days

Case 5



Before



After 39 days