



Figure 1: Post operation with bactigras dressing



Figure 2: One month after RTD dressing



Figure 3: Two months after RTD dressing

Introduction

Surgical site infection (SSI) is a common postoperative complication and causes significant postoperative morbidity and mortality, prolongs hospital stay, and adds between 10% and 20% to hospital costs. Although the total elimination of wound infection is not possible, a reduction in the infection rate to a minimal level could have significant benefits in terms of both patient comfort and medical resources used.

Case Report

A 39 year-old obese lady with underlying diabetes mellitus sustained an open comminuted fracture of left supracondylar femur (gustilo grade IIIA), open comminuted fracture of left tibia plateau (Schatzker VI) and left neck of fibula fracture without neurovascular involvement after the motor vehicle accident on 4th April 2018.

She underwent wound debridement and left knee arthrotomy washout, screw fixation of left femur and left tibia with calcaneal pin insertion on 7th April 2018. Unfortunately it was complicated with deep surgical site infection, needing multiple episode of wound debridement. The wound bed was unhealthy, filled with slough and profuse serous purulent discharges. The wound swab culture was reported as Methicillin Resistant Staphylococcus Aureus (MRSA).

She was started on a prolonged course of antibiotic, however there was no improvement of wound. Infectious disease team has suggested for above knee amputation due to the worsening of surgical wound with multi drug resistance. At this point of time, RTD dressing has been chosen and applied on the infected surgical wound. After two cycles of dressing, the slough tissues has significantly reduced, wound bed appeared healthier. Therefore, the dressing was continuing for another six cycles. Subsequently the wound was closed with secondary suturing after 2 months.

Upon discharge the surgical wound appeared to be clean. She was put on external fixation across the left knee and was able to ambulate with wheel chair.

Discussion

There are numerous variables that affect a patient's risk of developing an SSI, such as age, nutritional status, smoking, proper use of antibiotics, intra-operative technique, pre-existing diabetes and obesity. Besides that, type of dressing can be improved to bolster the likelihood of a positive surgical outcome. In this case, the key of success is RTD dressing.

RTD Wound Dressing is highly absorbent antimicrobial foam with Methylene Blue (up to 0.25 mg/g), Gentian Violet (up to 0.25 mg/g) and Silver (up to 7 mg/g) integrated into the polymer matrix.

Methylene Blue draws protein rich exudates (bacteria and dead tissue) into the dressing and away from wound; creates a favorable wound healing environment. Gentian Violet have an effective antimicrobial and antifungal properties; it attacks gram positive and negative bacteria; reduces bacterial load, it also have analgesic effect. Silver ions (Ag+) are released in the presence of exudates; Ag+ binds to bacterial cells, it penetrates and kills gram positive and negative bacteria.

Conclusion

Other than eliminate the risk factors, an appropriate choice of dressing play a vital role in the treatment of SSI. In this case RTD dressing is the choice of dressing.

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