Successful Treatment of Unstageable Pressure Ulcer by Using Advanced Wound Dressing

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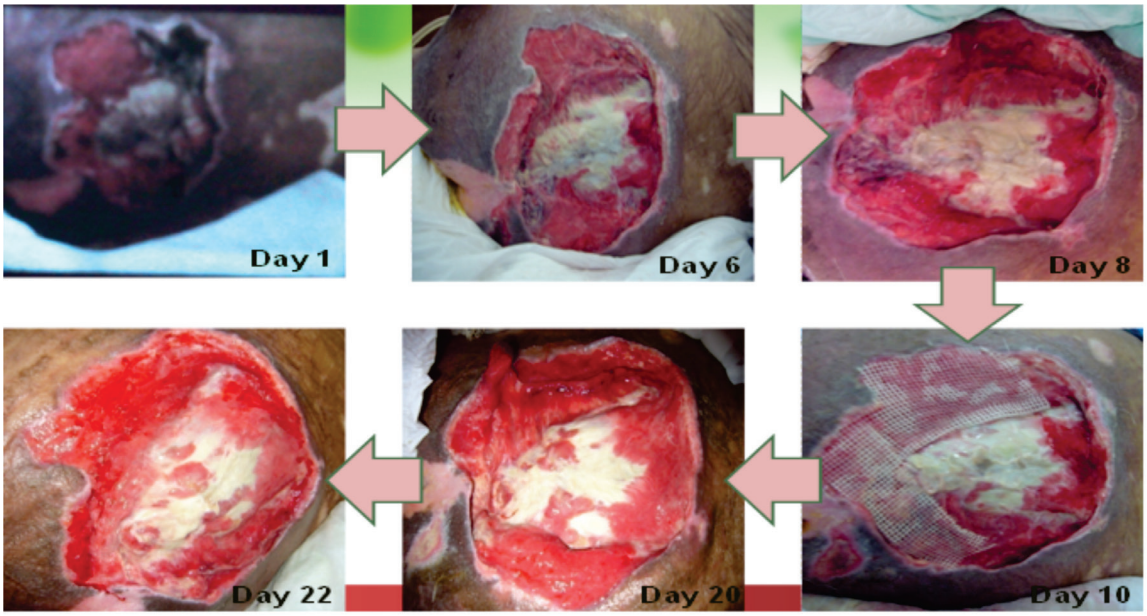

Figure 1. Unstageable pressure sore of Lumbosacral area were becoming better day by day (day-6,8,10,20 and 22) in a 79 years old male, with late stage of prostatic cancer and immobilization.

This is a case of a 79-year old male, with late stage prostatic cancer, immobilization and having unstageable stage of lumbosacral pressure ulcer. We manage his ulcer locally with an advanced wound dressing. We apply hydrogel as a primary dressing and hydrofiber as secondary dressing.

Advanced wound dressings are designed to maintain a moist environment at the site of application, allowing the fluids to remain close to the wound but not spread to unaffected, healthy skin areas. The relevance of the moist wound environment as a factor accelerating the healing process was first observed by Winter in 1962, but only recently has received more serious attention.[1] An effective dressing should protect the wound, absorb exudate, preserve a moist wound base, and remove excess exudate. Design of effective dressings relies on an understanding of the healing process, as well as the specific conditions of a patient and the effect that each material used could have on the wound.[2]

The phases of healing are cleaning, granulation, and epithelialization. The recommended dressing for cleaning phase are alginate dressing, dextranomer dressing, hidrofiber dressing, flax dressing, tenderwet

dressing, silver-supplemented dressing, or enzyme-supplemented dressing. Whereas for granulation phase, we can use alginate dressing, hydrocolloid dressing, hydrogel dressing, flax dressing, polyurethane foam dressing, or tender wet dressing. For epithelialization phase, we can use hydrofiber dressing, hydrocolloid dressing, hydrogel dressing, flax dressing, semipermeable dressing.[1] The type of dressing may change over time as exudate volume increases or decreases.[3]

Dressings designed for moist wound healing are represented by hydrogel and hydrocolloid products but only the latter can absorb mild to medium exudate or drainage. Both induce autolytic debridement, which facilitates the elimination of the dead tissue. Hydrocolloids are usually composed of sodium carboxymethylcellulose, gelatin, pectin, elastomers and adhesives. Hydrofiber dressings allow moisture to be captured because they form a swollen gel structure and conform to the wound site forming a 'seal'. Hydrofiber may be in the form of a hydrophilic, non-woven flat sheet dressing that can be converted to a soft gel sheet by absorbing the wound exudate. Hydrogels are widely used as debriding agents, moist dressings, and components of pastes for wound care. However, they do not need further wound fluids to become gels and are suitable for dry wounds. The so-called 'moisture donor' effect of hydrogels helps autolytic debridement, increasing collagenase production and the moisture content of necrotic wounds. They can absorb and retain contaminated exudate within the gel mass through expansion of crosslinked polymer chains resulting in isolation of bacteria, detritus and odour molecules in the liquid. Their high water content allows vapor and oxygen transmission to the wounds such as pressure.[1]

The dressing that contain alginate are indicate for wounds with heavy exudates, skin ulcers, with abundance of fibrin, inflamed wounds with bacterial contamination, deep chronic wounds, and surface granulating wounds with heavy and medium exudates. The advantages of alginate are the forms gel on wound and provides moist environment, reduces pain, can pack cavities, absorbent in exudative wounds, promotes hemostasis, can be used with infected wounds.The disadvantages are does not provide thermoregulation and application to deep wounds needs to be monitored carefully because overstimulation of fibroblasts can slow wound healing. May require secondary dressing, not recommended in anaerobic infection, gel can be confused with slough or pus in wound. The dressing that contain hydrocolloid are indicate for chronic wounds with minor or medium amounts of exudates and have some advantage such as retains moisture, painless removal, dressing in forms of paste and powders could be use for treatment of deep wounds and fistulas, but cannot be used for infected or necroted wounds or wound with very high exudates levels. Hydrofiber are indicate for bacteria-infected wounds, neglected wounds or wounds in danger of becoming infected, with heavy and medium exudates. Hydrofiber can be used for treatment of deep wounds but it has to be covered with secondary top dressing. Whereas the hydrogel dressing are indicated for dry wounds covered with fibrin and necrotic tissue, even those with medium level and heavy exudates, deep wound, fistulas with heavy exudates surface, wounds with granulation and minor exudates. Hydrogel can be applied directly onto wound but it must also be protected with secondary dressings.[2,4]

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