

# A Case of Fissure-Like Pressure Ulcer on the Coccygeal Area Successfully Treated with Changing of Wound Dressing

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**Abstract:** A 61-year-old Japanese woman developed pressure ulcer on her sacral and coccygeal area due to a long-term bed rest. After she received the treatment by bucladesine sodium ointment, trafermin (recombinant human basic FGF) splay and TIELLE® (Johnson & Johnson Co) hydropolymer dressing, the ulcer gradually reduced in size and depth. However, the improvement of the fissure-like ulcer decelerated when the size became around 2X2cm. Thereafter the occlusion by hydrocolloid dressing was continued for around two years with only slight effect, decreasing the size to around 1X1cm. Finally, we changed the dressing to the hydropolymer dressing TIELLE® plus, which can absorb superfluous oozing well, because maceration was found on the perilesional skin. Then, the ulcer was rapidly healed and epithelized in two weeks, suggesting that the excess secretion had delayed of wound healing.

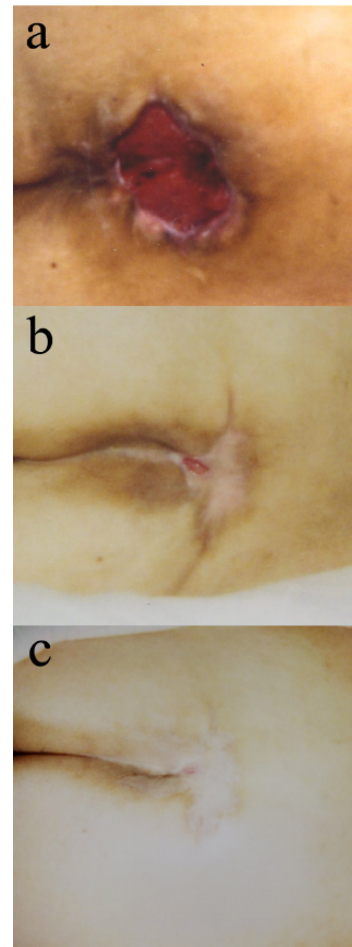
## CASE PRESENTATION

A 61-year-old Japanese woman had suffered from intracranial hemorrhage and its aftereffect and developed pressure ulcer on her sacral and coccygeal area due to a long-term bed rest (Fig. 1a). After she received the treatment by bucladesine sodium ointment, trafermin (recombinant human basic FGF) splay and TIELLE® (Johnson & Johnson Co) hydropolymer dressing, the ulcer gradually reduced in size and depth. However, the improvement of the fissure-like ulcer decelerated when the size became around 2X2cm. Thereafter the occlusion by hydrocolloid dressing was continued for around two years with only slight effect, decreasing the size to around 1X1cm, while the granulation tissue was well colored (Fig. 1b). Finally, we changed the dressing to the hydropolymer dressing TIELLE® plus (Johnson & Johnson Co), which can absorb superfluous oozing well [1, 2], because maceration was found on the perilesional skin (Fig. 1b). Then, the ulcer was rapidly healed and epithelized in two weeks (Fig. 1c), suggesting that the excess secretion had delayed of wound healing.

## COMMENTS

Pressure ulcer is tissue damage caused by excess pressure, shearing or friction forces on the bony of the malnourished patients or those with acute illness. The treatments include reducing pressure, friction and shear forces, removing necrotic debris, managing bacterial contamination, and correcting nutritional deficits. Moreover, for optimizing local wound care, drugs and dressings should be appropriately chosen, depending on the state of pressure ulcers.

Initially basic FGF and hydrocolloid dressing were effective for our case, reducing the size and depth. Indeed, the efficacy of basic FGF is well evidenced by the randomized,



**Fig. (1).** Clinical appearance of the skin ulcer. (a) When the patient was hospitalized, the pressure ulcer was found. (b) The occlusion by hydrocolloid dressing was continued for around two years with only slight effect, decreasing the size to around 1X1cm. (c) The ulcer was rapidly healed and epithelized in two weeks after TIELLE® plus dressing was started.

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blinded, placebo-controlled human trial for pressure ulcer. In this trial 21 of 35 (60%) patients receiving bFGF achieved a 70% volume reduction although four of 14 (28.6%) patients in the placebo group achieved it. This outcome is significantly different by the Fisher's exact test ( $p = 0.047$ ) [3]. On the other hand the recent systematic literature review demonstrated that hydrocolloid dressings are more effective than gauze dressings for the reduction of the wound dimensions of the pressure ulcer [4]. Therefore, the combined application of bFGF and hydrocolloid seems reasonable. However, recently the controlled delivery of bFGF using gelatin hydrogel has been reported [5] and thus the improvement of dressings may be needed to enhance the effect of bFGF for the clinical practice of pressure ulcer.

The choice of dressing may be significant for our case in the following two points. First, because the change of dressing to hydropolymer TIELLE<sup>®</sup> plus rapidly improved the pressure ulcer with maceration, hydropolymer dressing is more hygroscopic than hydrocolloid dressing. It was previously reported that hydropolymer dressing is more beneficial than hydrocolloid in terms of controlling the exudate production [6]. Second, because the shape of the fissure-like ulcer seen in our case suggests that shear stress plays an important role to cause the ulcer and moreover hydrocolloid dressing

was reported to be tightly adherent to skin [7], we assume that its adhesiveness augmented the shear stress to the perilesional skin.

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Received: August 25, 2008

Revised: September 1, 2008

Accepted: September 3, 2008

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