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External Tension-Reducing and Decompression Bandaging Suitable for Tension-Reducing Suturing: One Method

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1. Abstract

Sufficient reduction of tension can accelerate wound healing and effectively prevent scar hyperplasia. In order to reduce tension effectively, many scholars have improved suture techniques for high tension parts of chest and back or active parts of joints. Recently, “Zunyi’s suture”, “Chapter hypertensioned suture”, and progressive tensioned suture can effectively close high-tension incisions [1-3] (Figure 1). The skin at the wound edge will rise higher than the surrounding skin after these tensioning procedures. Due to the bulge, the skin at the wound edge will suffer the greatest pressure during the pressure dressing after surgery, which will not only reduce the effect of reducing tension, but also affect the blood supply at the wound edge, thus delaying wound healing and increasing the risk of scar hyperplasia.

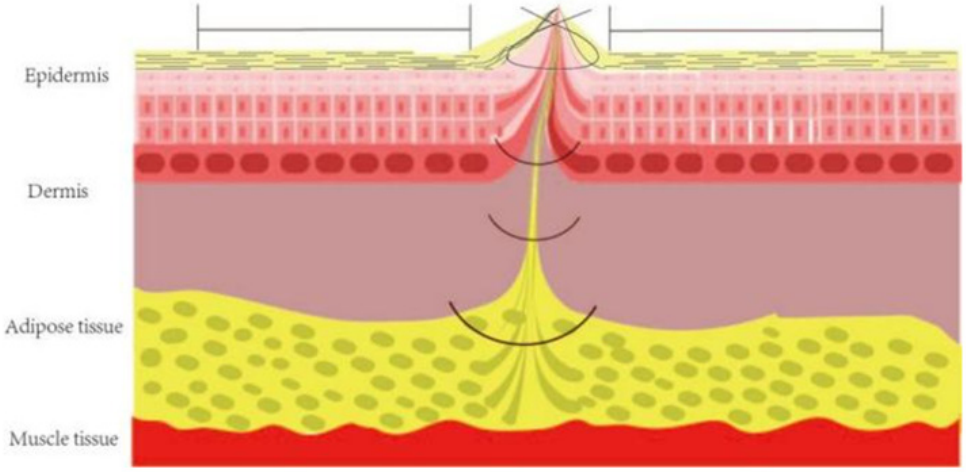

Figure 1.

2. Method

Aiming at the problem of protrusion compression of skin wound edge after tension reduction suture, we explored a method of decompression and tension reduction dressing suitable for tension reduction suture wound. In the first step, the range of subcutaneous dissociation, the length of the incision, and the height of the skin eminence at the wound margin were evaluated. The second step is to determine the coverage of the dressing according to the range of subcutaneous tissue free, and ensure that the dressing completely covers the free tissue area. The length of dressing incision is then determined according to the length of incision to protect the wound (Figure 2A). Then, the thickness of the auxiliary material is selected according to the height of the uplift of the wound edge, so that the height of the dressing is flush with the top of the wound edge (Figure 2B). In the third step, the outer layer of the reducing tape is fixed in the vertical direction of the incision to further reduce the skin tension on both sides of the incision edge (Figure 2C). Figure 2 The width of the gauze dressing covering the skin was selected according to the range of subcutaneous ionization. The gauze dressing was laid flat on both sides of the skin bulge at the wound edge, and the thickness of the gauze dressing was equal to the height of the bulge bulge (Figure 2A). Lay a second layer of gauze on top of the first layer of gauze dressing to cover the entire operative area wound (Figure 2B). Use a tensioning tape on the outer layer to stabilize the dressing and reduce the outer skin tension (Figure 2C).

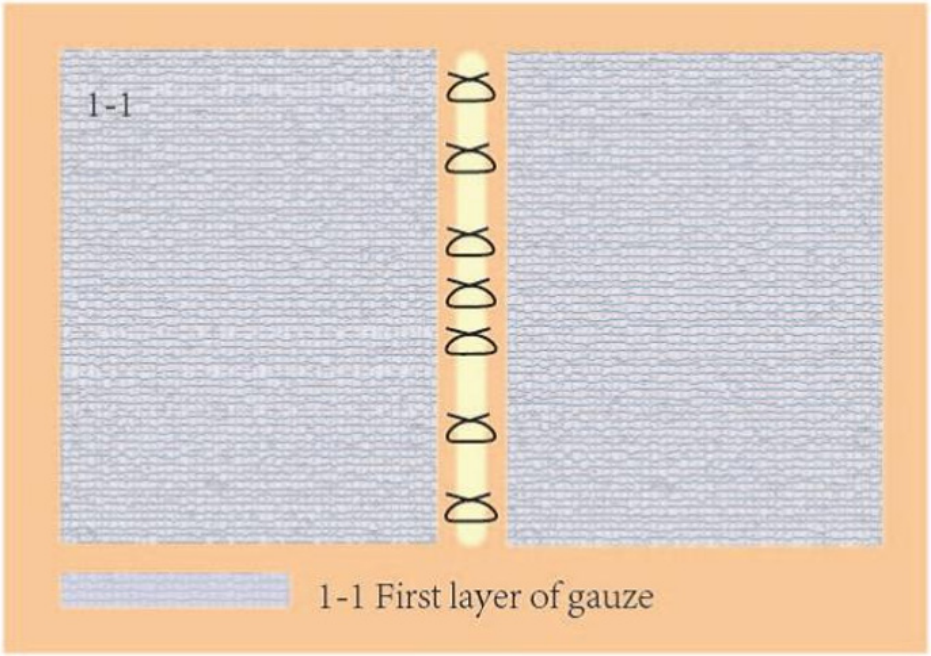

Figure 2A

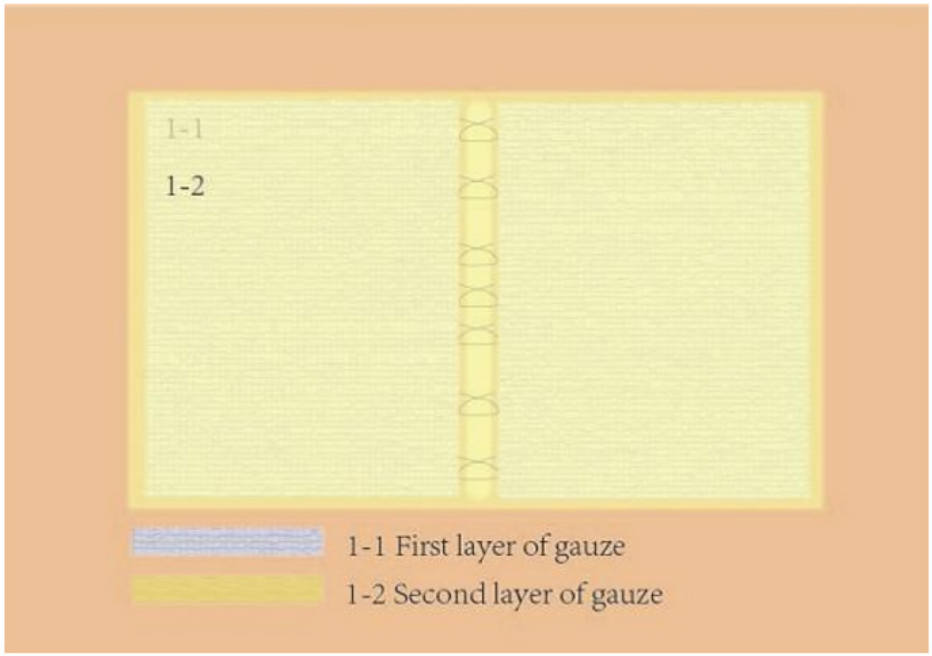

Figure 2B

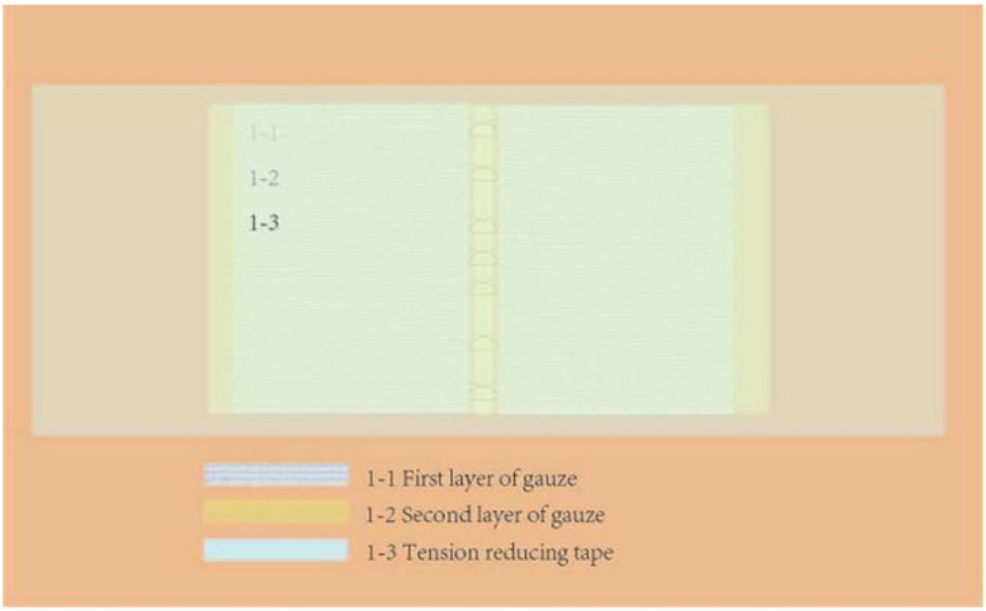

Figure 2C

3. Case Report

A 32-year-old woman was presented with surgical incision bandaging using external tension decompression after relaxation suture on her left forearm. First, determine the range of subcutaneous tissue free and the height of the skin bulge at the wound edge (Figure 3A). The dressing completely covered the free tissue area, and the thickness of the dressing was selected according to the height of the wound edge bulge (Figure 3B). Lay a second layer of gauze on top of the first layer of gauze dressing to cover the entire wound area (Figure 3C). To further reduce the skin tension on both sides of the incisal edge, the outer layer of the tensioning tape is fixed in the vertical direction of the incision (Figure 3D).

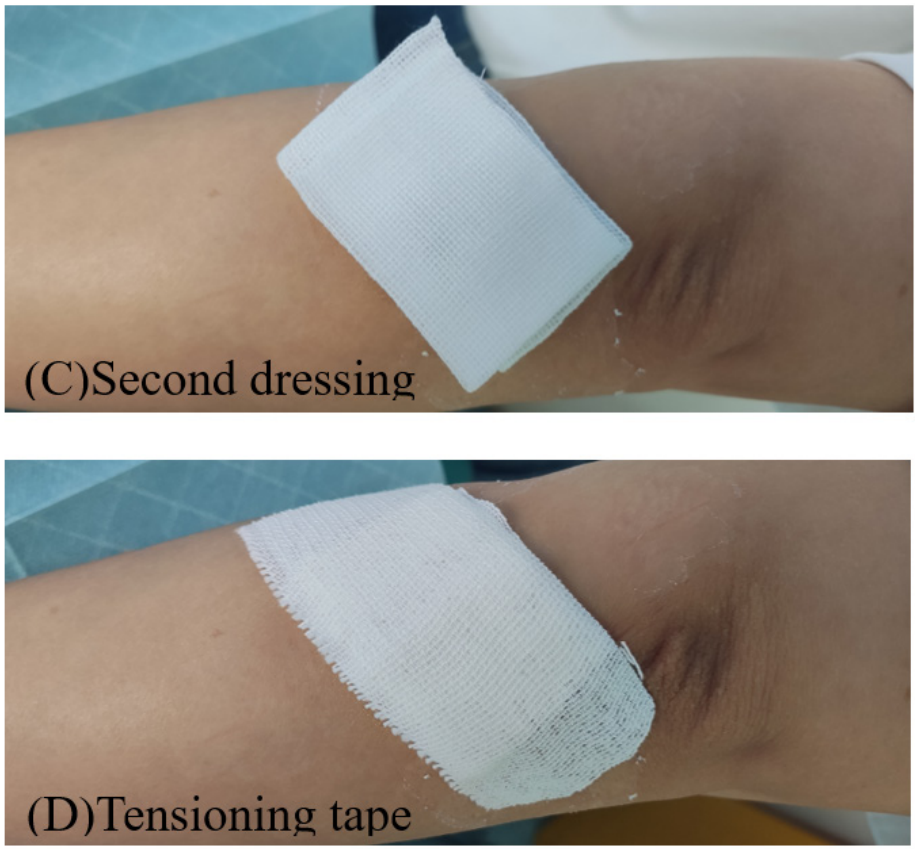

Figure 3: Assess the size of the operative area(A), cover the first layer of gauze (B) and the second layer of gauze (C), the outer layer is made of tensioning tape (D).

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