The Double Opposing Semiocclusive Drain Dressing

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Suction drainage with a Jackson-Pratt, Blake, or Hemovac drain is commonly employed for postoperative drainage of a variety of sites including the abdomen, pelvis, cutaneous tissue flaps, and skin grafts.[1-3] Some patients may express complaints of discomfort and pain around the skin at the tube's insertion site and/or where it is sutured in place.[4]

There is no consensus in the literature on the ideal drain dressing; techniques vary and are mainly performed based on surgeon preference or accepted institutional norms. A simple, quick, and inexpensive method for minimizing patient efforts for drain dressing care and potentially, their discomfort, is described.

TECHNIQUE

After the suction drain has been placed and secured, two double opposing semiocclusive film dressings are placed around the suction tube at the site of insertion. At our facility, two 6x8 inch Tegaderm (3M, St. Paul, MN, USA) dressings are used. One of these clear semiocclusive dressings is placed on one side of the tube, with half of the dressing in contact with the skin and the other half supporting the tube (Figure 1A). The second is placed on the other side of the tube, directly opposite from the first dressing, again with half of it in contact with the skin, and the other half around the tube (Figure 1B). The dressings essentially "sandwich" the drain tubing to secure and support the drain while helping seal off the insertion site and skin from the external environment (Figure 1C). Care should be taken to ensure that these dressings adhere to the skin around the drainage tube insertion site. If a prosthetic device such as an implant or tissue expander lies within the drainage cavity, a chlorhexidine-impregnated disk (Biopatch; Ethicon, Inc., West Somerville, NJ, USA) may be placed around tube at the skin to add a locally delivered antimicrobial prior to sealing with the double opposing semiocclusive films. Usually this dressing is left alone and not removed until time for drain removal as long as it stays intact and appears clean; otherwise, it can be changed if needed.

DISCUSSION

Conventional techniques for dressing closed suction drainage catheters are performed in a variety of ways ranging from no dressing to wrapping a petroleum-based gauzed around the tube and securing it with tape. In fact, very little consensus exists in the literature describing either the performance of, or the scientific rationale for an ideal drain dressing. Procedural manuals mainly describe a simple drain dressing technique placing a gauze around the drainage catheter; the gauze may be purchased with a preformed slit or it may be cut specifically to fit around the tube and then secured with tape.[5,6]

In multiple studies, semiocclusive dressings have been found to (a) decrease pain, (b) reduce time to healing, and (c) decrease the incidence of infection when covering skin graft donor harvest sites.[7-9] This rationale was the impetus for trying to find a way to apply use of these dressings in patients

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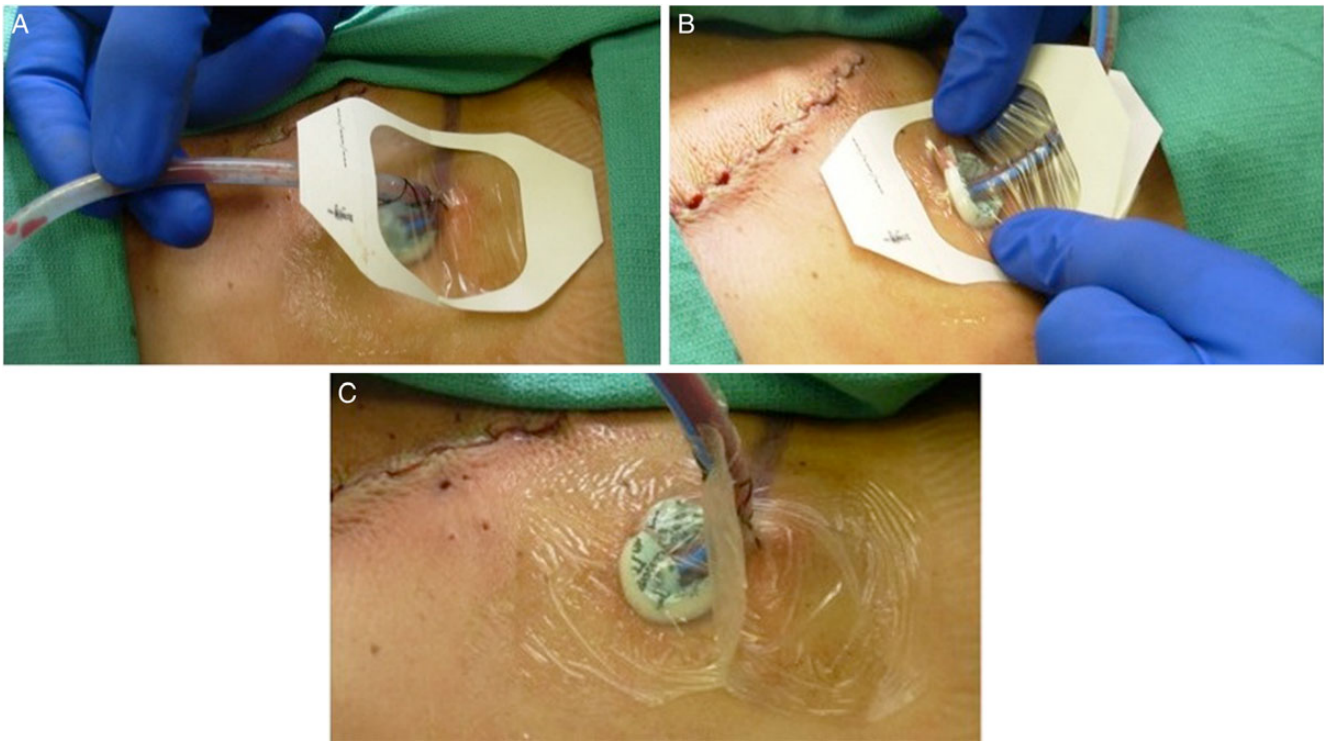

Figure 1. This 48-year-old female patient required a closed suction drain with breast reconstruction. (A) Drain dressing initiation by placing the first of two double-opposing semiocclusive dressings. (B) Matching the second of the double-opposing semiocclusive dressings to the dressing already placed. (C) The double-opposing semiocclusive dressing over a chlorhexidine-impregnated disk.

with drains to (a) simplify the care regimen and (b) potentially decrease patient discomfort. The present authors have over 8 years' experience using this technique in over 250 breast reconstruction and panniculectomy patients alone. The application of a double-opposing semiocclusive dressing is a simple, inexpensive solution to help minimize patient concerns about drain dressing care and potentially reduce the discomfort felt due to the use of a closed suction drain. The cost for the product used at our institution is $0.46, which equals roughly $1 (two semiocclusive dressings) for each drain.[10] This double-opposing semiocclusive dressing "sandwich" acts to immobilize, support, and protect the drainage tube at the skin, and at the same time elevates it to a more neutral position, relieving the natural tension and pulling caused by gravity. By reducing repetitive trauma at the tube's insertion site and/or frequent dressing changes, we expect patients to have less local irritation and thus improved satisfaction.

Additionally, conformability to the patient's body makes this an easy dressing to use and the fact that it is transparent allows for simple evaluation of the drain site for local problems such as infection. The barrier effects of these dressings make them ideal for showering without contamination of the drain's insertion site. The dressing's reliable adherence to the patient's skin eliminates the need for frequent dressing changes that can lead to maceration and irritation of the skin, and is usually removed in conjunction with the patient's drains at the appropriate clinical setting. Therefore, this simplified approach has helped decrease the patient burden with respect to drain dressing care and anecdotally has resulted in fewer concerns regarding drain discomfort at the skin insertion site.

In more high-risk patients in whom the cavity being drained has a prosthetic device within its vicinity, a chlorhexidine-impregnated disk was added around the tube at the skin insertion site to further protect against infection; this strategy was applied from ICU literature pertaining to the use of these devices in decreasing central line infections.[11,12]

Our determinations are mainly based on what has worked in our practice with our patient population. Further studies designed to compare discomfort and satisfaction using validated questionnaires could help to more objectively define advantages with this technique vs other drain dressings. These studies could be expanded to not only include patients who have other dressings utilized vs the double opposing semiocclusive dressings, but also with and without local antimicrobial delivering disks in patients where concurrently implanted prosthetic devices are placed. However, in the meantime, our hope was to share with our colleagues a technique that has been of value to our daily practice.

CONCLUSION

The double-opposing semiocclusive dressing is an alternative a practitioner can utilize when dressing closed-suction drains.

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