FAST FACTS AND CONCEPTS #218
MANAGING WOUND ODOR
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Background  Foul-smelling non-healing wounds are common in patients nearing the end-of-life, whether from pressure ulcers, vascular disease, or tumors. Strong wound odors can lead to social and physical isolation, altered patient body image and self-worth, and can challenge caregivers. This Fast Fact will discuss a practical approach to ameliorating wound odors. See also Fast Facts #40 and #41 (pressure ulcers), #46 (malignant wounds), and #185 (topical opioids).

Pathophysiology  Foul odors from wounds result from the metabolic by-products of anaerobic and certain gram negative organisms. Deeper infection (e.g. cellulitis, necrotizing infections) are not necessary for significant odor generation.

Management  While it should be addressed, treatment of the underlying cause of the wound is often limited in patients with advanced illnesses. In all circumstances, attempts at ameliorating wound odor are important – whether by treating the cause of the odor or hiding the odor.

• Addressing the cause of the odor:
  ○ Remove the wound bed contaminants (e.g. debride the wound of necrotic tissue).
  ○ Control infection. There are several approaches, all aimed at controlling anaerobic growth.
    • Topical Metronidazole is available as a commercially produced gel. Metronidazole functions as an anti-inflammatory as well as anti-infective agent against anaerobes which reduces odors. Metronidazole gel is applied directly to the wound once or twice daily. Studies have shown decreases in wound odor in 2-3 days, and application is usually continued for up to 2 weeks. Courses can be repeated if needed. In one study, 63% of patients had complete eradication of odor after a course of metronidazole gel, with the remainder reporting improvements. Costs can range from a few dollars for compounded gels to ~$90-150 for 45 gm of commercial gel. Metronidazole tablets can also be broken and the powder contents sprinkled into the wound. Applying dressings soaked in a mixture of normal saline and intravenous metronidazole solution has also been reported as helpful for controlling odor.
    • Systemic Metronidazole can be used if there is evidence of deep tissue infection causing foul odor. 500 mg 3 or 4 times daily IV or orally is used, instead of or in addition to topical metronidazole. Systemic side effects such as nausea and diarrhea can occur.
    • Topical Silver Sulfadiazine ($4-$20) has been shown to be helpful in controlling odors of superficial wounds. In several studies, silver containing dressings were more effective than nonsilver dressings in reducing odors.
    • Cadexomer Iodine is an antimicrobial agent containing slow release iodine and has been shown to decrease bacterial counts and odor from venous ulcers. Ointment, powder and impregnated bandage forms are available. Cadexomer iodine has the added benefit of absorbing exudate and can be particularly helpful when exudate absorption and odor control are both needed. It can cause a burning sensation upon application.
  ○ Yogurt or buttermilk, applied for 15 minutes after a wound is cleaned, have been reported to control malignant wound odor, though studies are limited. They are thought to control bacterial proliferation by lowering a wound’s pH.
  ○ Honey can be bactericidal, and has been increasingly studied for wound healing. There is some evidence that it may be effective in managing odor as well as wound pain.

• Hiding the odor:
  ○ Aromatics: Scented candles, air freshener sprays, peppermint and other essential oils, coffee beans or grounds, and cider vinegar in a pan are all used to hide odors.
  ○ Adsorbents: Charcoal adsorbs aromatic molecules. A basket of charcoal (briquettes) can be placed discreetly in a patient’s room. Various commercially available charcoal dressings are also available, although expensive. These dressings are applied over the primary dressing and may be re-used as long as they remain dry. Baking soda can be applied between dressing layers to help absorb odor. Cat litter can also be used similarly to charcoal briquettes.
Support and Education  There can be great psychosocial distress associated with malodorous wounds: embarrassment, shame, and isolation. In addition to wound care specialists, psychological and spiritual support services can be important in helping patients and families cope with a chronic wound. Educate the patient and caregivers about the management of chronic wounds, and commit to controlling odor as much as possible. Health care providers should be trained to avoid demonstrating distress at odors in front of or in hearing distance of patients or families.

References

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