

Treatment of disseminated infection with diffuse embolization of the musculoskeletal system using Polyvinyl alcohol (PVA) with Methylene blue and Gentian Violet sponge at a County Facility

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Introduction

A 42 year old male employed at the local racetrack admitted to acute care after a horse stepped on his foot. Though x-rays were negative, CT identified a multi-focal pyomiositis with MRSA resulting in a necrotizing infection, abscesses to bilateral arms, shoulder, back, right thigh, calf, knee, septic emboli, high grade bacteremia. He has multiple comorbidities including poorly controlled diabetes, heavy alcohol consumption and unknown substances. Initial wound care was performed daily under anesthesia lasting up to two hours. Once wounds were free of frank purulence, wound care was initiated on the acute care unit using Polyvinyl alcohol (PVA) with Methylene blue and Gentian Violet.

Methodology

Prevent recurrent systemic infection, ease of dressing changes, and minimize pain were very important goals. Wound dressings were twice a week on the 5 body sites using bacteriostatic foam composed of polyvinyl alcohol (PC-PVA) with Methylene blue and Gentian Violet (pigment-complexed PVA sponge) in tampon form. Negative pressure wound therapy was applied to all five wounds.

Results

No signs of acute infection. Beefy red granulation tissue was developing. Further wound cultures were negative for MRSA. Pain at dressing change decreased from a 10 on IV medications to 2 on oral pain medication. Patient was prepared for transfer to long term care facility.

Conclusion

The use of bacteriostatic PC-PVA sponge in combination with NPWT allowed these complex wounds to clear deep MRSA infection and prevent premature tunnel closure of the wounds.

Pyomiositis

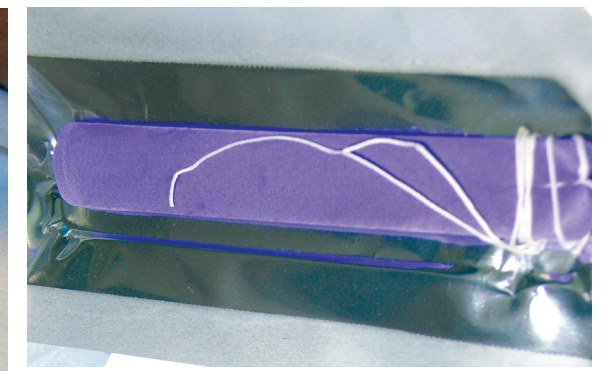
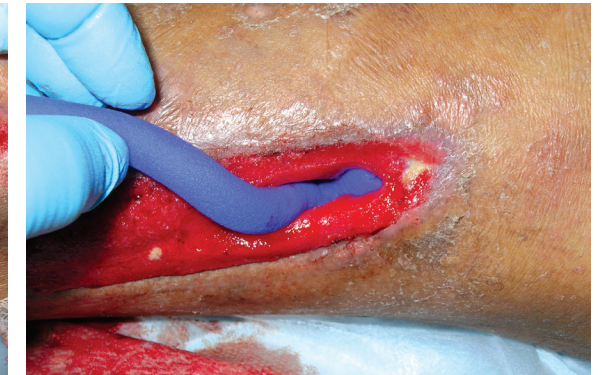
Pyomiositis is a primary infection of the skeletal muscle usually caused by *Staphylococcus aureus*. The first symptoms are often overlooked and evolution shows fever, sepsis, local inflammatory involvement usually located in large muscles of the lower extremities.

Plausible Explanation

Plausible explanation for this disseminated MRSA infection is the fact that patient sustained a cut to his right thumb which became infected resulting in high grade bacteremia, diffuse embolization of infection into several musculoskeletal areas of the body resulting in deep-seated abscesses.

Initial Wound Measurements

Right knee	4.0 x 1.8 x 3.0
Right lateral thigh	15 x 2.5 x 2.5
Right medial thigh	5.8 x 1.5 x 2.0
Right forearm	5.7 x 2.8 x 2.0
Left upper arm	6.3 x 2.5 x 4.4



Polyvinyl Alcohol (PVA) with Methylene Blue and Gentian Violet (two organic pigments – complexed)

Features of Dressing Material

- **Bacteriostatic**
- **Extremely Hydrophilic**
- **Highly resistant to chemicals**
- **Indicator – product turns when it needs to be changed**
- **Durable and soft**