

Indiana Medicaid Therapeutics Committee Therapeutic Class Review Summary

Therapeutic class:

Wound Care Products

Overview:

The goals of wound care are to prevent infection and promote tissue growth. Necrotic tissue, which often occurs in stage III and stage IV wounds, delays healing, promotes infection and must be removed for proper tissue growth. The methods of necrotic tissue removal include surgical, sharp, mechanical, and enzymatic debridement. Enzymatic debridement involves application of enzymatic products to dissolve necrotic tissue. The process of enzymatic debridement is slow and it should be considered for patients who are not candidates for surgical debridement.

The available enzymatic agents are the following:

- 1) Papain/urea combination: Papain is a proteolytic enzyme, which digests nonviable tissue with no effect on viable tissue. However, it is relatively ineffective when used alone. Papain requires the presence of activators to stimulate its digestive potency. Urea exposes the sulfhydryl groups in the nonviable tissue, which allows papain to attach to those tissues and perform degradation. Therefore, papain is often used in combination with urea. The products with this combination are Accuzyme[®] Spray, Accuzyme[®] Ointment, EtheZyme[™], EtheZyme[™] 830, EtheZyme[™] 650, Gladase[™], Kovia[®].
- 2) Chlorophyllin copper complex/papain/urea combination: In addition to papain and urea, chlorophyllin copper complex is added to the combination to promote healing, control local inflammation and reduce wound odor. The products with this combination are Gladase[™]-C, Panafil[®] ointment, Panafil[®] Spray, Ziox[™].
- 3) Collagenase: Collagenase digests collagen in necrotic tissue, which facilitates granulation product is Santyl.

The above products are designed to remove necrotic tissue. The indications are mainly for pressure ulcers (decubitus) and burns. Papain and urea combinations have also been used in diabetic foot ulcer. Although, some products have the same active ingredients, they are different in concentration or formulation (ointment, gel or spray). Most of the agents are not rated in the orange book for their interchangeable status. Published data for comparative studies of these products are also limited. However, in general, products that contain papain and urea seem to have a similar effect when compared to the collagenase products, and ointments are more efficient than sprays. Of note, FDA has determined the castor oil/peru balsam/trypsin combination products to be DESI (less than effective); therefore, the following products are no longer under consideration for PDL inclusion: Allanderm T, Granulderm, Granulex, Optase, TBC Aerosol, and Xenaderm ointment.

A relatively new wound care agent, becaplermin, was developed to promote tissue growth. Becaplermin has biological activity similar to that of endogenous platelet-derived growth factor. It is indicated for the treatment of lower extremity neuropathic diabetic ulcers. However, its effects diminish when used in areas without adequate blood supply. Although becaplermin has been used in the management of pressure ulcers, it is not a FDA approved indication.

GENERIC NAME	BRAND NAME	MANUFACTURER	GENERIC
Papain; Urea	Accuzyme® Spray, Accuzyme® Ointment, EtheZyme™, EtheZyme™ 830, EtheZyme™ 650, Gladase™, Kovia®, AllanZyme spray, AllanZyme 650 ointment	Healthpoint Ltd, Smith&Nephew, Stratus Pharmaceutical, Ethex Corp., Allan Pharmaceutical and others	No information
Chlorophyllin Copper Complex; Papain;Urea	Gladase™-C, Panafil® ointment, Panafil® Spray, Ziox™, Allanfil spray, Allanfil 405 ointment	Healthpoint Ltd, Smith&Nephew, Cypress Pharmaceutical, Stratus Pharmaceutical, Allan Pharmaceutical and others	No information
Collagenase	Collagenase Santyl®, Santyl®	Healthpoint Ltd	N
Becaplermin, rh-PDGF	Regranex®	Ortho-McNeil	N

Summary:

In clinical practice, products containing papain and urea seem to have a similar effect when compared to products containing collagenase; products containing castor oil, peru balsam and trypsin are milder debriding agents; and ointments are more efficient than sprays.

Becaplermin promotes tissue growth, which is different from enzymatic debridement agents. Becaplermin needs to be reserved for the treatment of diabetic ulcer of lower extremities and with adequate blood supply.