

Available online at <http://www.ijims.com>

ISSN: 2348 – 0343

## **Healing Drug Can Harm Patients Badly :Severe Burn Injury in the Wound with Eusol Dressing – A Rare Entity**

P. Prakash and S.J. Kiruba Prasanna

College of Nursing, Pondicherry Institute of Medical sciences

\* Corresponding Author: P. Prakash

### **Abstract**

**EUSOL** (Edinburgh University Solution of lime) is a commonly used solution in Surgical unit which will help the patient in faster wound healing. It is found most effective in Pseudomonads organism. But it will harm the patients too bad as burns if it is used in surgical application without proper dilution with normal saline or with distilled water.

**Key Words:** Eusol , wound , burn , patients

### **Introduction**

EUSOL stands for Edinburgh University Solution of lime

Composition: 12.5 gm bleaching powder + 12.5 gm boric acid in Distilled water to make 1 litre. Weight/volume to available chlorine available chlorine. The pH ranges from 7.5-8.5 (Lorrain Smith,1990) <sup>1</sup>

EUSOL is an antiseptic solution prepared from chlorinated lime and boric acid, formerly used in treating wounds. It is used in Surgical dressing to remove the slough or necrotic tissues from the wound and it helps in effective healing (Clin Pract, 1976) <sup>2</sup>.

### **Uses of Eusol**

- Burns management
- Surgical Dressing
- In treating Ulcer/abscess

### **Mechanism of Action**

It releases nascent chlorine act as desloughing agent. It is recommended for diabetic and ischemic ulcers. In dilute concentrations kills fibroblast, neutrophils and endothelial cells in tissue culture. When apply to open wound that are healing by secondary intention delays the appearance of hydroxyproline (amino acid marker of wound collagen content) and prolongs the acute inflammation response(Catlin 1992) <sup>3</sup>. Eusol is highly effective with pseudomonads organism.

### **Unfavorable Effects**

Early 1990s, evidence that Eusol solution can impair blood flow in the capillary circulation of granulation tissue in the rabbit ear chamber model of wound healing and hence delays healing (Brennan and Leaper, 1985) <sup>4</sup>.

## Discussion

Numerous Literature supports Eusol is the best Solution for Surgical dressing but at the same time it will harm the patient too. I would like to share my personal experience that Eusol causes burn injury to the patient if it has been used in Surgical dressing is performed without the proper dilution with Distilled water or Normal saline.

A patient in a Surgical Unit who has a alleged history of work place injury smudged into the sand, recovered by JCP and injured in right lower abdomen. He was diagnosed as penetrating trauma abdomen and also fracture in right iliac crest. The patient suddenly bursted out into tears after the surgical dressing with Eusol. Patient verbalized that he has severe pain in his right lower abdomen. Immediately the physician opened the dressing and witnessed that the wound is burnt and was necrotic. The Surgical dressing has been changed with plain Normal saline dressing and analgesic was administered.

Normal saline was recently used for irrigation solution in wound care simply because it acts as a need to replace Eusol and similar such chlorine-containing solutions because it is considered as bio-incompatible.

## Conclusion

**Florence Nightingale**, Pioneer modern Nursing emphasized that the very most important thing is “Do do any harm to the patient”. I would like to publish this article because this incidence evoke the Surgeons to do Eusol dressing in proper dilution with normal saline or distilled water in order to promote patient safety measures.

## References

1. Lorrain Smith, Theodore Rettie, Composition of Eusol, The Lancet, Volume 187, Issue 4838, Pages 1058 - 1059, (1916).
2. Clin Pract, Definition of Eusol, Pharma Action, volume 133, Page: 325,(1976).
3. Catlin L. Hypochloride usage in the wound for healing. British Journal of Nursing 1(5): 226-229 (1992).
4. Brennan and Leaper, Effect of antiseptics on wound healing : a study using the rabbit ear chamber. British Journal of Surgery 72(10): 780-782 (1985).