Fenugreek Use in Wound Management

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Abstract:

Background:
Wounds are disabling disorders, affecting people's quality of life. Many studies were done to investigate a novel way of wound management but still are lacking.

Patients and methods:
We are reporting four cases with different types of wounds using Fenugreek dressing. Their ages range from (30-70) years, two of them have concomitant chronic diseases. Verbal and written informed consent taken. Swabs from infected wounds taken to isolate causative microorganisms before and after Fenugreek dressing.

Discussion:
Fenugreek is used locally in Sudan in treating many different diseases. Many studies reported the efficacy of using fenugreek in wound healing acceleration in experimental animals.

In this study there is good response to fenugreek dressing in terms of pain relief, subsidence of edema, clearance of infection, wound contraction, and wound healing promotion.

Conclusions and recommendation:
It is clear that fenugreek dressing in our patients has a beneficial effect on wound healing but further study as a clinical trial is needed to investigate fenugreek dressing as a novel treatment in wound healing acceleration.

*Variables: wound healing, acceleration, Fenugreek, concomitant chronic diseases, edema subsidence, clearance of infection, wound contraction
Introduction:

Wounds have considerable physical disability on humans. Many researchers studied the role of medicinal plants in accelerating wound healing by their anti-microbial effects and wound healing properties as shown by Badri Parskash Nagori and Renu Solanki (1). A Vernonia Amygdaline is a plant used in folklore for wound healing. It contains saponins, alkaloids and tannins as reported by Menakaya (2).

Fenugreek seeds have antihyperlipidemic activity and markedly decreases the blood level cholesterol as reported by Issarani R. (3). Fenugreek seeds are rich in polysaccharide galactomannan which has significant wound healing properties as concluded by MC Daniel (4).

In this study, we are reporting four cases with different types of wounds that responded effectively to fenugreek dressing as powder mixed with water.

Methods of data collection:

Our study was done on (4) patients with different types of wounds referred from different surgical units in the Omdurman military hospital. Informed consents obtained both verbal and written.

After cleaning wounds paste made of fenugreek powder mixed with tap water applied topically around wounds and then covered with sterile gauze. Dressing done twice a day by trained nurses. Regular swabs from infected wounds were sent to lab for culture and sensitivity. Clinical data and follow up of patients documented in a predesigned sheet.

Case (1):

A 31 years old male soldier brought from war area with traumatic amputation of the right lower limb. In hospital above knee amputation undertaken. 3 weeks later the patient was in severe pain and was depressed. The wound was infected and covered with dead tissues. The skin retracted above the level of muscles and bone. Wound culture showed Staph Aureus, which was sensitive to vancomycin and Augmentin. Fenugreek dressing started without. From the 2nd day the patient general condition started to improve, the pain started to subside. In 2 weeks' time, the whole wound covered with granulation tissue. The wound became sterile of bacteria in 17 days. Skin contracture started early and skin covered most of the wound in 3 wks. Then the wound grafted and patient discharged in a good condition. See photos.

2 wks after.
A 57 yrs old male patient known is diabetic for 34 years. The patient was on oral hypoglycemic drugs. He was having infection of 2nd and 3 toes which were amputated. After that an ulcer developed in the sole of the foot. He was on dressing of this wound for 4 years. On examination the wound was about 8×5cm in the distal part of sole of the foot with pussy discharge and fibrosis of the skin edges of the ulcer. Swab culture revealed S. aureous sensitive to vancomycin. Fenugreek dressing started. In one week there was no discharge and the wound started to become red. Complete healing of the wound occurred in 40 days.

Case (3)

A 35 years old male patient presented with traumatic below knee amputation. In hospital, the wound refashioned and the stump sutured. The wound became infected and sutures removed. The stump was short and the tibia was exposed. It was infected with pseudomonas bacteria. The wound covered partially with necrotic tissues. Fenugreek dressing started. In 3 days’ time the general condition of the patient improved, the wound started to become red and the necrotic tissue start to slough. In 11 days considerable wound contraction occurred and the wound completely covered with granulation tissues. In two weeks’ time, the wound almost nearly closed and the patient discharged (see photos).

Case (4)

A female of 70 years known hypertensive for ten years and diabetic for 3 years. She presented with fracture of the right femur following trauma 40 days before admission few days after trauma she developed bed sore. In hospital internal fixation done using plate and daily dressing for bed sore for one month. There was no improvement with dressing in terms of wound size. The left buttock contains abrasions with central deep wound of about three cms. It was clean. In the right buttock, the wound was deep and large about 10 by 16 cms. Fenugreek dressing started. After 3 days wound start to contract and granulation developed in the edge of the wound and the wound started to become shallower. After one week the wounds in the left buttocks healed complete and after 6 weeks the right buttock wound became very shallow, only 6 by 6 cms and very clean and red.
Discussion:

Fenugreek (Trigonella Foneum Gracecum) is a medicinal plant used to treat various diseases. In Sudan, Fenugreek is used as a nutritional plant especially in lactating women to enhance milk secretion. It is also used to treat abscesses and amoebic dysentery.

Fenugreek contains carbohydrates (45-60%) mainly galactomannans, proteins (20-30%), saponins, lipids, calcium, iron, vitamins A, B, C, nicotinic acid and volatile oils.

Combination of fenugreek seed extract and honey were found to accelerate wound healing more than using honey alone in a study done in rats by M.R. Mustafa et al (6).

A short-term nutritional and safety evaluation of fenugreek concluded that feeding of fenugreek seeds to rats even up to 20% level has no toxicological effects on them. According to that, it is safe to use in diabetic and hypercholesteremic patients as PU Rao said (7).

In our study, we reported the use of fenugreek dressing in four patients. The dressing is done by mixing the seed powder with water and apply it around the wound twice a day. Three were males and one female. Their age range from 30-70 years, two of them are diabetic and one is diabetic and hypertensive. Three have infected wounds. Staph Aureus and Pseudomonas were isolated.

Fenugreek has analgesic and anti-inflammatory effects as seen in our patients by a marked subsidence of pain, redness of the wound and granulation tissue formation in few days.

-Fenugreek's bactericidal effect role is not clear yet, since we reported few cases, but we observed that pus discharge disappears and dead tissues slough within few days of its application.

*Conclusions:

- It is clear that fenugreek in our patient decrease the time and cost effects of wounds.

- Fenugreek has an analgesic, anti-inflammatory and bactericidal effects.

- Further studies need to be carried out to investigate the feasibility of fenugreek use in wound healing acceleration.
References:


