

Comparative Study Between Aloe Vera (*Aloe vera*) oil And Lavenders (*Lavandula Officinalis*) Oil, with Three Type Of Ointment Floumizin In Burn Treatment in Rabbits.



Buthyna Abdul Hameed

Tikrit University-Veterinary Medicine.

ARTICLE INFO

Received: 09 / 09 /2012
Accepted: 25 / 2 /2013
Available online: 03/11/2014

DOI: [10.37652/juaps.2013.104795](https://doi.org/10.37652/juaps.2013.104795)

Keywords:

ABSTRACT

In the present study we used 8 Rabbit,they divided four groups,first group treatment by mixed herbal oils (alovera&lavender) after burning (second type),in back area. Other groups treatment by three floumizin ointment found in pharmacy that different manufacture . we observed that the mixture of Aloe Vera and lavender oil in specific ratio where much better in the treatment of burn,when compared with other three groups of floumizin (different manufacture)were little action.

Introduction:-

Traditional medicine is in practice for of many countries by substantial proportion of the population of many countries. It is recognized that developed and developing countries still use plant as that main medicinal sours to treat various disorder health problems. *Aloe Vera*: is stem less drought-resisting succulent of the lily family. It is indigenous hot countries and has used medicinally for over 5000 years by Babylonian,Egyptian Indian Chinese and European cultures .it contain over 60 biological active compounds And is calmed to have anti-inflammatory, anti-oxidant,immune boosting, anti-cancer,healing, anti-ageing and anti-diabetic properties. (1)

Anti-microbial activity of Aloe Vera was well documented (2),and anti-viral activity(3). Langmead et al (4) Concluded that oral Aloe Vera taken for 4 weeks produce a clinical response for active ulcerative colitis and it also reduce the histological alterations .Aloe Vera usefulness in skin care is not limited to wound, but also extended to abrasion and burns .A Topical application of Aloe Vera has shown to increase collagen deposition improving collagen matrix and reduce inflammation (5).

—————* Corresponding author at: Tikrit University-Veterinary Medicine .E-mail address:

Bassetti andSale reportedin their book the active compound content of the Aloe Vera .included some of the essential trace element and anti-oxidant enzymes which help cell to become stronger in combating . The negative effects caused by oxygen and the broad spectrum radiation to which human skin is exposed daily.(6)

In the meantime **Lavender** are a genus of about 25 - 30 species of flowering plants in the mint family, Lamiaceae, native to the Mediterranean region south to tropical Africa and tothe many regions of Asia. The genus includes annuals, herbaceous plants, subshrubs, and small shrubs(7).Lavender oil, which has long been used in the production ofperfume, can also be used in aromatherapy. The scent has a calming effect which may aid in relaxation and the reduction of anxiety, and stress,lavender oil can be used as an antiseptics and pain reliever to be applied to burn and insect bites and sting.(8)Lavender oil and burns have a long history. A French chemist Rene Maurice Gattefosse in the early 1900 was working in his lab and burned his hand severely. He then stuck his hand in a nearby container of lavender oil. He discovered his hand not only stopped hurting, it healed faster and didn't scar. Lavender works so well for this kind of burn(9).The Lavender therapeutic properties of lavenders oil are anti-septic, analgesic, anti-convolution,anti-depressed,anti-rheumatic, anti-spasmodic, anti-inflammatory, anti-viral, anti-bactericide, carminative, cholagogue, cicatrizing, cordial, Cytophylactive,

decongestant, deodorant, diuretic, emmenagogue, hypotensive, nervine, rubefacient, Sedative, sudorific, and vulnerary(10).

Material and methods:-

8 New Zealand rabbits were included in the study. The animals' weight ranged from 1.8 to 2.0 kg (male adult) in month (March-April) . They were divided into four groups. One days prior to the experimental burn, the backs of the animals were shaved with a standard electric shaving machine. to obtain a smooth and hairless skin. The animals were kept under standard laboratory conditions and veterinary supervision with no restrictions on water and food.

Anesthesia

The animals were local anesthetized by intramuscular injection of 3 mg/kg Lidocaine

Burn injury:-

The desired stamp until redness, In each animal deep partial thickness (DPT) burns second type .About 2 cm intact skin was maintained between burn areas.

Treatment:-The animals were divided into four groups.

G(1) had 3 time |daily application of AloeVera oil lavender oil .

G(2)Silver sulfadiazine (floumizin)®(A).

G(3) silver sulfadiazine (fluomizin)®(B).

G(4) silver sulfadiazine (floumizin)®(C).

NO\ Floumizin ® trade name of silver sulfadiazine

Dressing

The dressings were changed daily applied silver sulfadiazine & oils was cleaned with saline solution. was only wiped with dry gauze. Treatment ointment& oils were reapplied and new gauze dressings were held in position with a self adhering wrap-around bandage .

Results :-

.(Table 1) show the changing in burn area during the course of experiment . All of the burn injured rabbits show some kind of healing. Rabbits in (G1) show better healing than the others which indicate the usefulness of they herbal oils as complete healing were occur after 15 days, while the other group were extended after 20 days. More over the rabbits treated with the herbal oils were much comfortable than the others as it appear from the

behavior of the rabbits. Figure (1) shows the burned area after five days in all groups, Figure (2) shows the burned area after 10 days, figure (3) after 15 days and figure (4) after 20 days.G1showed both cell proliferate (removal of necrotic tissue) and epithelialization (skin growth) properties and thereby hastens the growth of new healthy tissue over wounds and sores. Even hair were re-grow in the area of the burn.

Discussion:-

Burn Injury was traditionally defined by percentage of total body surface area(%TBSA) affected. This definition excluded many other factors that impact on a person's well-being. The classification is dependent on a range of variables that describe the mechanism of injury, how the patient is affected by the injury, %TBSA affected and depth of Burn Injury.(mm) Burns can cause swelling, blistering, scarring and, in serious cases, shock and even death. They also can lead to infections because they damage skin's protective barrier. Antibiotic creams can prevent or treat infections. The result of the present experiment shows that the mixture of Aloe Vera and lavender oil in specific ratio where much better in the treatment of burn,when compared with other three groups of sulfadiazineThe present study indicate that the herbal oils treatment was best medication for burn injury than other pharmaceutical preparations of fluzamide from different origins. The use of plants oils was convenient, resulting in good compliance with the rabbits experiencing good recovery of the burn injury. Our results also indicated the benefit of herbal oils for preventing inflammation & readily healing, This may be attributed to the physiological function of Aloe Vera and lavender compound, which were well document by other worker .For their activities in anti-microbial,anti-viral, skin protection and collagen and anti-oxidant properties. (2,3,4,5)Significant increase in breaking strength (skin and granuloma tissue), enhanced wound contraction and decreased epithelization period were observed. (11 and 6)An increase in lyses oxidase activity and mucopolysaccharide content were also seen. This herbal drug could therefore increase tensile strength by increasing cross-linking in collagen and interactions with the ground substance(6) Aloe Vera improves wound healing and inhibits inflammation. (12)Lavender essential oil showed good antioxidant activities and broad activity against bacteria,

decongestant, and sedative (9 and11). The results obtained from this study suggested the usefulness of aloe Vera and lavender oils in specific ratio cloud be used with safety in burn injuries.

Table 1 : shows the changing burn areas\cm, during the course of the experiment.

Drugs	The Burn Areas			
	First day	After 7 day	after - 13 days	After healing
Alovera& lavender oils	2.40CM	1.80CM	1CM	healing
Flumizin(A)	2.40CM	1.82CM	1.2CM	1CM
Flumizin(B)	2.40CM	1.82CM	1.68CM	1.68CM
Flumizin(C)	2.40CM	1.82CM	1.68CM	1,68CM



B-Treated by floumizin(A)



A-First day of aloe and lavender oil



C-Treated by floumizin(B)



D-Treated by floumizin(C)

Figure (1) :showed treatment all type through the first day



B-Treated by floumizin (A)



B-Treated by floumizin(B)



A-Aloa&Lvondor oils



B-Treated by floumizin(C)

Figure 2: Treatment by All types after 5 Days



A-Aloa&Lvendor oils



B-Treated by floumizin (A)



B-Treated by floumizin(B)

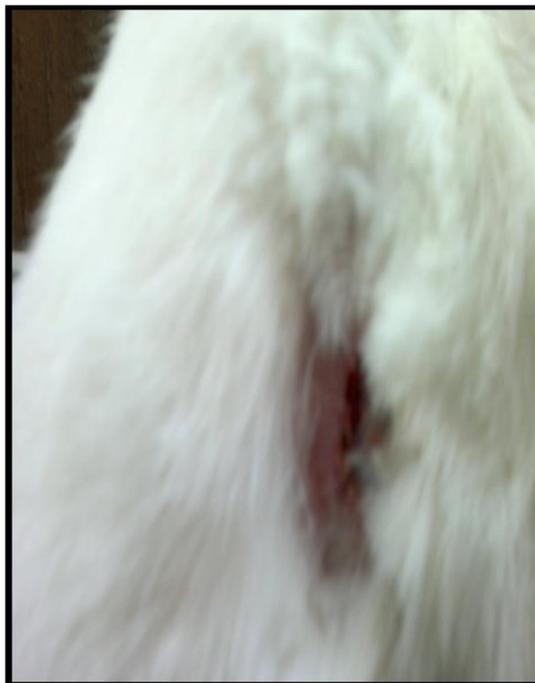


B-Treated by floumizin(C)

Figure 3: Treatment by All types after 10 Days



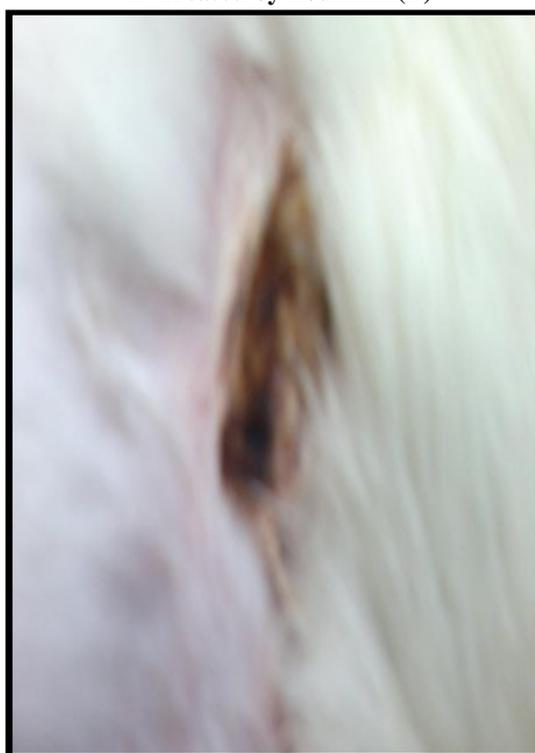
A-Aloa&Lvndor oils after 15 days



B-Treated by floumizin(B)



A-Treated by floumizin(A)



B-Treated by floumizin(C)

Figure 4: Treatment by All types after 20 Days except Aloe and lavender after 15 days



Figure 4: Treatment by Aloe and lavender after 20 Days

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دراسة مقارنة بين الزيوت (الصباروالخزامي) مع ثلاثة انواع من كريمات فلامازين لمعالجة الحروق في الأرناب

بشينة عبدالحميد عبدالله

E.mail: dean_coll.science@uoanbar.edu.iq

الخلاصة:

تم استخدام 8 ارناب في هذا البحث وقسمت إلى أربعة مجاميع المجموعة الأولى عولجت بالزيوت النباتية (الصبارمخ الخزامي)بعد أن استحدثنا حروق من الدرجة الثانية في منطقة الظهر لجميع الأرناب, أما المجاميع الأخرى عولجت بثلاثة مراهم(فلومازين) الموجودة في الصيدليات ذات مناشيء مختلفة .لاحظنا إن الأعشاب الممزوجة (الصبار والخزامي) بنسبة خاصة لها مقدرة عالية على الحروق وشفاؤها بصورة تامة بدون اثر للحروق.عند مقارنتها مع المراهم. (فلومازين) ذات المناشئي المختلفه كانت اقل مفعولاً.