# Evaluation of Wound Healing Effect of Topical Abukhalsa ointment on extravastion wound


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# *Introduction:*

- Delayed **wound healing** is when it takes longer for a **wound** to **heal** than normal.

- Chemotherapy and radiation therapy are main cause of **delayed wound healing in oncologic patients**.

- In **cancer patients**, normal body processes, such as cellular replication, inflammatory reactions and tissue **repair**, are impacted by **cancer** treatments.

- Chemotherapy induced extravasation wounds are one of the challenging problem that haven,t confirmed treatment.

# Extravasation wound


# *Abukhalsa*
# (Arnebia euchroma)

- AbuKhalsa is an Arab herb that is native to Iran.(**Kerman province**) Lately, Iran has developed an ointment or pad for diabetic wounds.


- These compounds reduce blistering and soften burns, and their efficacy has been demonstrated by careful clinical studies on patients.

- ***therapeutic properties :*** antibacterial, anti-inflammatory and healing
- ( so it can be used to treat diabetic wounds) .

# Method of study:

- We evaluated ***36 oncologic patients*** with chemotherapy induced extravastion wound during ***36 months ,which*** randomly divided in 3 groups (*n* = 12): (1) ***Abukhalsa ointment*** was administered; and (2) ***phenytoin ointment*** (*n* = 12) ***,(3) Vaselin*** (*n* = 12) ***as a control group*** were applied on the skin wound surface.

- The 3 intervention groups were dressed with Abukhalsa formulation and Phenytoin ointments and vaselin . These 3 agents were applied ***daily*** during the study period (***21 days***).

- The injury area should be washed by normal serum, then the ointment is administered ***3mm thickness*** on sterile gas .

- We observed patients for 3 items:
- **a.wound contraction** (day 6, 12,18)
- **b.pain score** **(**day 1,3,7)
- **c.repair score** **(**day 1,3,7)

- observation performed daily ***for 21 days***

- The observers were a ***nurse and a physician unrelated to the pediatric oncology ward.***

## Percentage of wound contraction

| | Day 6 | day 12 | day 18 |
|---|---|---|---|
| phenytoin | 48.70 ± 1.76 | 66.67 ± 4.27 | 88.37 ± 0.83* |
| Abukhalsa | 48.47 ± 2.36 | 77.03 ± 3.09 | 92.0 ± 0.59** |
| vaselin | 27.20 ± 3.29 | 63.33 ± 3.81 | 82.90 ± 2.26 |


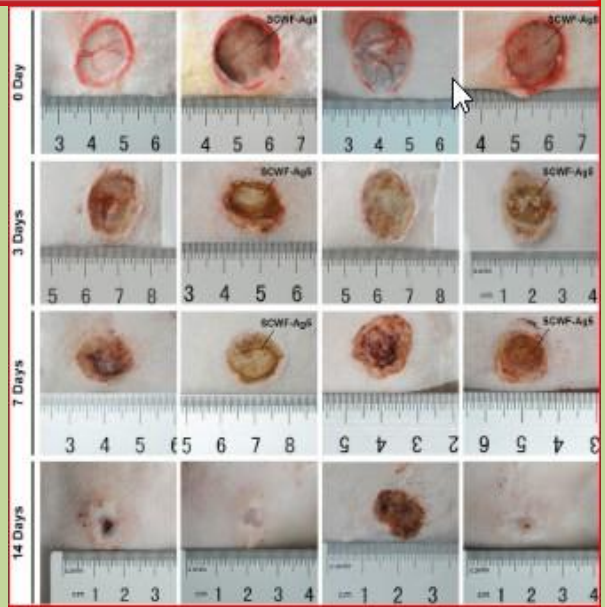

Table 2. Comparing Pain(Wong score)Two Groups:

| Variable/ | Abukhalsa | phenytoin | P Value |
|---|---|---|---|
| **Pain score** | | | |
| **The first 24 hours** | 4.48 ± 1.33 | 5.1 ± 1.6 | 0.01 |
| **The third day** | 2.76 ± 1.19 | 3.6 ± 1.6 | 0.00 |
| **The seventh day** | 2.9 ± 1.27 | 1.59 ± 1.04 | 0.00 |

# *Falanga wound bed score*

| Table 1. Wound bed score (best score 16; worst score 0) by Falanga, 2006.[6] | | | |
|---|---|---|---|
| **Wound bed score** | **0** | **1** | **2** |
| Healing edges | None | 25%-75% | > 75% |
| Black eschar | > 25% of wound surface area | 0%-75% | None |
| Greatest wound depth/granulation tissue | Severely depressed or raised when compared to periwound skin | Moderate | Flushed or almost even |
| Exudate amount | Severe | Moderate | None/mild |
| Edema | Severe | Moderate | None/mild |
| Periwound dermatitis | Severe | Moderate | None/mild |
| Periwound callus/fibrosis | Severe | Moderate | None/mild |
| Pink wound bed | None | 50%-75% | > 75% |

# Falanga wound bed score:

| Oint/day | 1 | 3 | 7 | p-value |
|---|---|---|---|---|
| Phenytoin | 2.60 ± 1.76 | 4.67 ± 1.27 | 7.37 ± 0.83* | (p=0.01) |
| Abukhalsa | 2.47 ± 2.36 | 6.03 ± 1.09 | 9.0 ± 0.59 | (p=0.01) |
| Vaselin | 2.20 ± 3.29 | 4.33 ± 1.81 | 5.90 ± 1.26 | |

# *Falanga socre percentage:*

**Table 1.** Comparison Between Mean ± SD in Percentage of Wound Healing in all Evaluated Groups in 3 th, 6 th, 9 th, and 12th Days

| Day | Control (vaselin) | Positive Control (Phenytoin) | Treatment (Abukhalsa Ointment) |
|---|---|---|---|
| 3 | 21.3 ± 0 | 24.98 ± 5.88 | 32.35 ± 5.45 |
| 6 | 37.09 ± 3.96 | 51.47 ± 3.16 | 61.27 ± 3.99 |
| 9 | 67.92 ± 5.29 | 88.02 ± 0.7 | 94.53 ± 1.72 |
| 12 | 87.89 ± 2.38 | 98.55 ± 0.88 | 99.91 ± 0.97 |

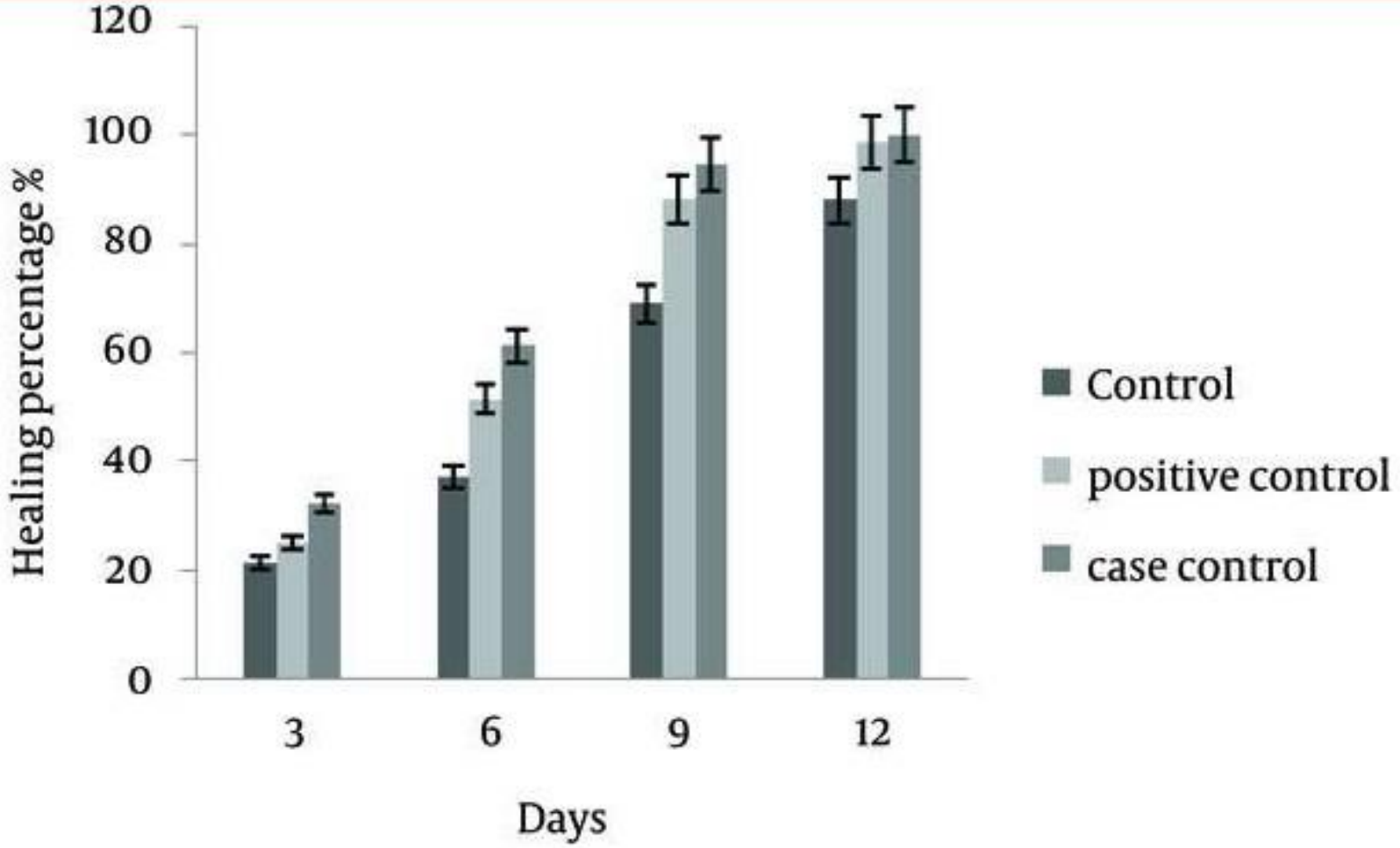


Figure 1. Comparison of Mean ± SD in Percentage of Wound Healing in all Evaluated Groups on 3 th, 6 th, 9 th, and 12th Days

The mean ± SD in percentage of wound healing was significant between the control and case groups, while it was not significant between the case and positive control groups.


# Results:


# Conclusion:

- Our work showed:
- statistically significant difference between the efficacy of daily topical application of Abukhalsa ointment compaired with Phenytoin ointment

- on the healing process of chemotherapy induced extravasation cutaneous wounds in our patients.
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# Thanks for attention

***natural views of Lorestan province***