



### Topical Common Salt for the Treatment of Umbilical Granuloma in Early Infancy: A Case Series from Oman

**\*Dr. Fadi Al-Hussain, MD, Dr. Saira Ghafor, Dr. Nanki Raga, Dr. Noura Almatroushi, Dr. Shima Hassan Khalaf, Dr. Julia Grace Aquino, Dr. Naima Saif Alaisi, Dr. Mohamad Ibrahim Yahia, Dr. Abdulla Salim Abdulla, Dr. Murad Amer Roius**

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*Specialist in General Surgery, Shinas Health Center, North Al Batinah Governorate, Oman*

#### Corresponding Author:

*Dr. Fadi Al-Hussain, Specialist in General Surgery, Shinas Health Center, North Al Batinah Governorate, Oman, Email: [wwwfady2000@gmail.com](mailto:wwwfady2000@gmail.com)*

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#### Abstract:

**Background:** Umbilical granuloma is one of the most common benign umbilical abnormalities encountered during the neonatal period. It typically develops shortly after umbilical cord separation and may present with persistent umbilical discharge. Although chemical cauterization with silver nitrate has traditionally been used as the standard treatment, topical common salt has emerged as a simple, inexpensive, and safe alternative [1-3]. **Objective:** To evaluate the effectiveness and safety of topical common salt in the treatment of umbilical granuloma in early infancy. **Methods:** A descriptive case series was conducted at Shinas Health Center, Oman, between January 2024 and June 2026. Six infants with clinically diagnosed umbilical granuloma were included. Most patients presented during the first month of life. Body weight ranged from 3.0 to 4.5 kg. Lesions appeared shortly after umbilical cord separation as a round granulomatous mass approximately 5 mm in diameter located centrally within the umbilicus. Most infants presented with persistent yellow serous discharge. Topical common table salt was applied directly over the lesion twice daily for 3 to 7 days. **Results:** Complete healing was observed in all six infants. Treatment success rate:  $6 / 6 \times 100 = 100\%$ . No adverse effects, skin irritation, infection, bleeding, or recurrence were observed during the two-month follow-up period. **Conclusion:** Topical common salt appears to be a safe, effective, low-cost, and easily accessible treatment option for umbilical granuloma in infants. It may serve as an excellent first-line treatment, particularly in primary healthcare settings.

**Keywords:** Umbilical Granuloma, Salt Treatment, Neonate, Infant, Pediatric Surgery, Oman.

## Introduction:

Umbilical granuloma is a common neonatal condition resulting from incomplete epithelialization after separation of the umbilical cord. It typically appears as a small, soft, moist, pink to red mass at the base of the umbilicus and is frequently associated with serous or yellow discharge [1].

Traditional treatment includes chemical cauterization using silver nitrate. Although effective, silver nitrate may cause chemical burns to the surrounding healthy skin, discomfort, and often requires repeated clinic visits [2].

Topical common salt (sodium chloride) has been increasingly recognized as a safe alternative treatment due to its osmotic dehydrating effect on granulation tissue [3].

This study presents our clinical experience with topical common salt in six infants treated at Shinas Health Center.

## Methods:

**Study Design:** This study was designed as a descriptive case series.

**Study Setting:** The study was conducted at Shinas Health Center, Sultanate of Oman, from January 2024 to June 2026.

### Inclusion Criteria:

*Infants presenting with:*

- Clinically diagnosed umbilical granuloma
- Age less than two months
- No signs of systemic infection

### Treatment Protocol:

The umbilical area was cleaned and dried before treatment. A small pinch of common table salt

was applied directly over the granuloma. The lesion was then covered with sterile gauze for approximately 30 minutes. The area was subsequently cleaned with sterile saline. This procedure was repeated twice daily for 3–7 days depending on clinical response.

## Follow-Up:

All patients were followed for two months after complete healing to assess recurrence or complications.

## Results:

A total of six infants were included.

### Patient Characteristics:

Variable	Findings
Number of patients	6
Male	4
Female	2
Age at presentation	Mostly within first month
Weight range	3.0–4.5 kg
Lesion size	Approximately 5 mm
Common symptom	Yellow serous discharge
Treatment duration	3–7 days
Follow-up duration	2 months

All infants demonstrated complete resolution.

Clinical success:  $6 / 6 \times 100 = 100\%$

No recurrence or treatment-related complications were observed.

## Discussion:

Our findings demonstrated excellent clinical outcomes with topical salt therapy. All treated infants showed complete healing without recurrence or adverse effects. The therapeutic effect of salt is believed to occur through osmotic

dehydration of granulomatous tissue, leading to tissue shrinkage and necrosis [3].

These findings are consistent with previous studies reporting success rates exceeding 90% [3-5].

Compared with silver nitrate, salt treatment offers several advantages:

- Low cost
- Easy availability
- Can be applied at home
- No risk of chemical burns
- Minimal need for repeated hospital visits

This makes salt therapy particularly useful in primary healthcare and resource-limited settings.

## Limitations:

This study has several limitations:

- Small sample size
- Single-center study
- Lack of comparison group

Larger randomized controlled studies are recommended.

## Conclusion:

Topical common salt is a safe, effective, inexpensive, and practical treatment for umbilical granuloma in young infants. Based on our experience, it may be considered a first-line treatment option in primary care practice.

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