

# Dramatic Effect of Common Salt (Cooking/Table Salt) to Manage Umbilical Granuloma in Neonates and Infants

Umbilical  
Granuloma in  
Neonates and  
Infants

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## ABSTRACT

**Objective:** To evaluate the dramatic effects of table salt on umbilical granuloma in neonates and infants.

**Study Design:** Experimental descriptive study

**Place and Duration of Study:** This study was conducted at the Department of Paediatric Surgery, Sandman Provincial Teaching Hospital Quetta from July 2018 to December 2018.

**Materials and Methods:** A total of 46 patient's neonates and infants from 3 weeks of age to 4 months (16 weeks) of age. Both male and female included. Patients with rectal polyp, omphalomesenteric duct and urachal remnants were excluded. The parents of patients especially mothers are instructed to clean the umbilicus of baby with cotton swab soaked with normal saline let it dry and then apply a chunk of salt sprinkled over the granuloma. Pad the umbilicus with a piece of gauze and adhesive dressing (sunny plast) remove the dressing after 20 to 30m re-clean the umbilicus. This procedure should be done thrice a day for consecutive 3 days.

**Results:** There were 44 cured completely with a dramatic effect of common salt which is about 95.6%, while two patients had no response or poor response which is about 4.3%. These two patients with no response were diagnosed after surgical excision and histopathology as rectal polyps.

**Conclusion:** The common salt method is simple to use, perfect cure, dramatic, cost effective and safe.

**Key Words:** Umbilical granuloma, Common salt, Infants, Neonates

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## INTRODUCTION

Umbilical granuloma is reported as the most frequent disorder originating from umbilicus in newborns.<sup>1</sup> It is commonly seen as small 1 to 10mm in size, soft febrile, non tender, pale pink/red coloured lesions at the base of umbilicus on physical examination.<sup>2</sup> Normally after delivery spontaneous separation of cord begins and it is completed about 7-15 days. After separation of cord the granuloma became apparent.<sup>3</sup> After cord separation there may be incomplete epithelization of granuloma tissue over the umbilicus. This normal granulation tissue normally resolves within 2-3 weeks, if it does not resolve and over growths this will lead to umbilical granuloma, it contains no feelings and nerves.<sup>4</sup>

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The exact etiopathogenetic of the umbilical granuloma is unknown. An inflammatory process and non-hygienic care is suggestive factor for granuloma formation.<sup>5</sup> The presence of infection in the umbilical is directly associated to the delay in cord separation.<sup>6</sup>

Al-Sony et al<sup>7</sup> suggested that proximal cord clamping, and antiseptic is very simple and effective method that reduces umbilical infection and consequently preventing granuloma formation.

At present there are multiple options for the management of umbilical granuloma like 75% silver nitrate stick method, electric cautery, double ligation, cryotherapy, surgical excision, doxycyclin, copper sulphate powder and common salt application method. All above method and procedures are effective and important but each have own advantages disadvantages, cost-effectiveness, surgical skill and equipment requirement.

In history Schmitt<sup>8</sup>, 1975 illustrated the little effect of common salt on umbilical granuloma in his short note; this examination gives idea to the future researcher to manage the umbilical granuloma.

## MATERIALS AND METHODS

This clinical trial was conducted in the Department of Paediatric Surgery Sandeman Teaching Hospital Quetta from 1<sup>st</sup> June 2018 to 31<sup>st</sup> December 2018.

In this study we put a total of 46 babies both male and female with age ranging from 3 weeks to 4 months. Patients with clinically evident granuloma are treated in outpatient department and also at home. In each case the first time procedure is performed in front of the mother by cleaning the umbilicus with cotton pad wet with normal saline, lead them dry for a while and then a pinch of salt sprinkled on granuloma packed with small gauze and covered with adhesive (sunny plast). The mothers are instructed to remove dressing after 30m re clean the button belly of baby and repeat this procedure thrice a day for consecutive three days. They were also keep in confidence that after first dressing you may found a drop of dark blood on umbilicus but doesn't worry clean that because this occurs only initially and mild. The patients are fallowed after one and three weeks to evaluate the effect of common salt on granuloma. The effect was graded according to response observed like; dramatic response; when complete regression of granuloma, no discharge, umbilicus clean and epithelized and no response/poor response. Computer statistical software SPSS 20.0 was used to analyze the data.

**RESULTS**

The mean age of the patients was 1.84±1.01 months. There were 24 (52.2%) males and 22 (47.8%) were females (Table 1). There were 44 (95.6%) children have dramatic response while 2 (4.4%) have poor response/ no response (Table 2).

**Table No.1: Demographic information of the patients (n=46)**

Variable	No.	%
<b>Age (months)</b>		
<2	33	71.7
2-4	13	28.3
<b>Gender</b>		
Male	24	52.2
Female	22	47.8

**Table No.2: Frequency of response (n=46)**

Response	No.	%
Dramatic response	44	95.6
Poor response/no response	2	4.4

**DISCUSSION**

The curative mechanism of salt is because of high concentration of Na ions which drains water from the cells and results shrinkage and damage of granuloma. However this effect is not so powerful to damage the normal surrounding tissue. Therefore in such situation common salt is effective for the management of umbilical granuloma. Umbilical granuloma is commonly found disorder in neonates and infants. It may causes life threatening

infections such as omphalitis and necrotizing fasciitis it is not treated on time.<sup>9</sup> Therefore it should be appropriately managed after establishing diagnosis.

Delayed separation of cord is the major cause of formation of granuloma and persistent inflammation .consequently, application of topical antibiotic and elimination of the friction of a wet diaper may allow the granuloma to epithelized.<sup>10</sup> There are different modalities for the management of umbilical grenuloma, though each have their own advantages and disadvantages.<sup>11</sup>

Electrocautry and cryotheraphy is also used in limited cases.<sup>12</sup> These procedures are again costly, skilled related, foul smelling and discoloration of skin is the side effect. Loten et al<sup>13</sup> suggested double ligation method where a thread is used, its again a skilled related having a complication of bleeding, needs of anesthesia and can be applied only used in pedinculated granulomas not sessile ones.

Surgical excision is another method which can be done by a skilled surgeon, needs anesthesia and equipment. This is not practicable in routine use but it is the better treatment modality for larger granuloma.<sup>14</sup>

Recently topical clobetasol propionate in109 patients with umbilical granuloma is suggested as effective as silver nitrate.<sup>15</sup> However Aydin et al<sup>16</sup> reported topical clobtasol propionate was very effective in children with ages above 12 years.

We selected 46 patients in our study having a age ranges from 3 weeks to 4 months .the male to female ratio which is almost same in literature but in our study male was slightly more like Annapurna and Ramu.<sup>16</sup> In our study 44 patients cured completely which is about 95.6% while in remaining 2 patients there was no or poor response which is about 4.4%. Two children having no or poor response patient are latter on treated with excision method and histopathology shows that a umbilical polyp. Though our study shows 95.6% dramatic and 5.5% no response but as the no response ones are diagnosed to umbilical polyp so the actual result can be taken as 100%.

**CONCLUSION**

Common salt application method is simple to use, dramatically effective, without any relapse and complications and more ever can be used by doctors, nurses and parents.

**Author's Contribution:**

- Concept & Design of Study: Mohyuddin Kakar
- Drafting: Khushal Khan
- Data Analysis: Mobeen-ur-Rehman Khan, Ahmad Shah
- Revisiting Critically: Mohyuddin Kakar, Khushal Khan
- Final Approval of version: Mohyuddin Kakar

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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