

Effective single treatment of umbilical granuloma by total excision and silver nitrate cauterization.

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The usually recommended treatment of umbilical granuloma is cauterization by silver nitrate. The result is often satisfactory, however, there are two drawbacks of this method. First, silver nitrate can burn periumbilical skin, and second, the patients need multiple therapeutic sessions.

The author reports 21 cases of umbilical granuloma treated by total surgical excision, followed by cauterization of the excision bed with silver nitrate chips. The technique is simple and the result is excellent. There were no complications in any of the patients, and all were successfully treated in one session.

Key words : *Umbilical granuloma, Treatment.*

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อรรวรรณ โจนสกุล. การรักษาโรคอัมบิลลิคัลแกรนูลอมาโดยการตัดออกร่วมกับการจี้ด้วยซิลเวอร์ ไนเตรท. จุฬาลงกรณ์เวชสาร 2538 มกราคม; 39(1): 13-18

การรักษา *umbilical granuloma* โดยการจี้ด้วย *silver nitrate* เป็นวิธีการที่ใช้มาตั้งแต่อดีตจนถึงปัจจุบัน วิธีการนี้มีข้อด้อยสองประการ คือ อาจเกิดการทำลายของผิวหนังรอบสะดือจากฤทธิ์ของสารเคมี *silver nitrate* และในกรณีที่ *granuloma* มีขนาดใหญ่ก็ต้องทำการจี้ซ้ำหลายครั้งทำให้เสียเวลาทั้งผู้ป่วยและแพทย์ รายงานนี้ศึกษาถึงผลการรักษาเด็กในจังหวัดสมุทรสงคราม 21 ราย โดยการตัด *granuloma* ออกร่วมกับการจี้เฉพาะเนื้อที่เลือดติดขัดสะดือด้วยผลึก *silver nitrate* ผลการศึกษาพบว่าทุกรายทำการรักษาเพียงหนึ่งครั้งได้ผลดีไม่พบปัญหาและโรคแทรกซ้อนแม้แต่รายเดียว

The umbilical cord usually dries and separates from the abdominal wall 5 to 8 days after birth, and the base epithelizes. Occasionally, delayed separation or infection can stimulate production of granulation tissue. Serous, sero-sanguinous or mucopulurent discharge from the umbilicus noted after the cord has separated suggests granuloma. If small, this can be seen only as a red button in the depth of the navel after it has been spread open. Large ones project far out of the umbilicus.

In searching for reports of umbilical granuloma, the author could not find any such reports in Thai literature although the condition is not uncommon in Thailand. For many years the author has had great interest in the management of umbilical granuloma. The event that initiated the authors technique of excision and cauterization of umbilical granuloma occurred in 1982. An infant age one month came to Samutsongkram Hospital with a large umbilical granuloma. He had twice previously been treated by cauterization with silver nitrate in a private hospital in Bangkok but the granuloma persisted. The author repeated cauterization with silver nitrate, and again five days later, but the granuloma only slightly diminished in size. The author then consulted a general surgeon, Arun Rojana-sakul MD., who suggested total removal by excision. After excision without any anesthesia, was done easily with operating scissors, the umbilical bed was compressed for a while for hemostasis. The author, concerned that the infant might have recurrent bleeding at home, decided to cauterize the raw umbilical surface with silver nitrate chips. At follow-up on the next day the umbilicus looked normal as though nothing at all had happened to it. Since then, the author has

always treated umbilical granuloma successfully by excision and cauterization with silver nitrate. There are two major advantages of this technique. First, all patients can be treated in a single session and second, periumbilical burn seldom occurs. The author wants to share the experience of treatment of the umbilical granuloma by excision and cauterization and hence this report was prompted.

Method

The records of 21 patients with umbilical granuloma treated by the author in Samutsongkram Hospital from October 1991 to September 1994 were reviewed and analyzed. The treatment was done in the following steps.

1. The umbilicus and periumbilical area were cleaned with seventy percent alcohol and allowed to dry.
2. The umbilical granuloma was exposed. Most patients have the granuloma hidden in the depth of the umbilicus (Fig. 1). The umbilicus may have to be everted to expose the granuloma (Fig. 2).

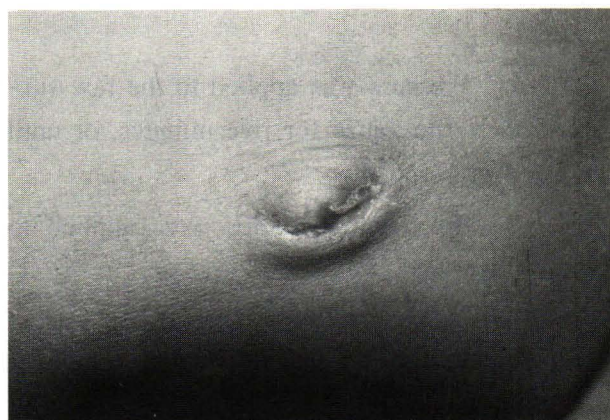


Figure 1. Mucopurulent umbilical discharge.



Figure 2. Everted umbilicus exposes underlying granuloma

3. The granuloma was excised with metzenbaum scissors. An arterial forceps can be used as a substitute for the metzenbaum scissors if the granuloma is small or the pedicle of the granuloma is small (Fig. 3).

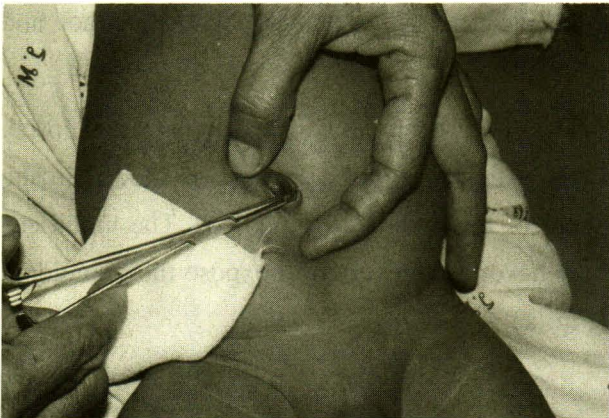


Figure 3. Excision of umbilical granuloma.

4. Pressure was applied to the raw surface with sterile gauze for five minutes, or until the bleeding stopped.

5. Silver nitrate chips were applied to the umbilical bed (Fig. 4).

The described steps were easily carried out for all patients. There was no need for local anesthesia, and no post-operation prescriptions were required.



Figure 4. Cauterize surgical bed with silver nitrate chips.

Follow-up examinations occurred 1-3 days after the procedure. The patients were questioned, complications were looked for, and the data recorded.

Results

There were twenty one new-born in this study (Table 1); thirteen males and eight females. The ages varied between twenty and sixty days. All the patients had been born in hospitals. Sixteen patients came with the problem of umbilical discharge and five patients came to the hospital with other problems. Only five patients were known to have umbilical granuloma by their parents. Following the procedure, all of the patients had dry umbilicus (Fig. 5).



Figure 5. Result after cauterization.

Table 1. Details of patients.

Patient	Age (Days)	Sex	Problems			Other problems
			Umbilical discharge	Bad smell	Mass at Umbilicus	
1	30	M	+	+		
2	20	M	+			diarrhea
3	58	M	+			well baby clinic
4	27	M	+			
5	30	F	+			
6	60	M	+	+	+	
7	24	M	+			common cold
8	36	F	+			
9	24	F	+		+	
10	23	F	+			
11	45	F	+	+	+	diarrhea
12	30	M	+			
13	30	M	+			
14	57	M	+		+	
15	31	F	+	+		
16	40	M	+		+	
17	28	M	+			
18	36	M	+			
19	27	M	+	+		
20	31	F	+			
21	50	M	+			facial rash

In follow-up records there were no complications such as secondary bleeding, infection, or silver nitrate burn.

Discussion

Umbilical granuloma often occurs among new born who have a deep socket in the umbilicus because the hidden umbilical bed is not easy to clean. The granuloma usually attaches loosely to the umbilical bed. Its pedicle is smaller than the external appearance and there is no feeding artery. The above description explains why excision of an umbilical granuloma is so easy. If the granuloma is small, arterial forceps can be used to crush and remove the granulation tissue. After the granulation is excised, there will be only minor amounts of blood oozing from the raw surface which can be stopped by pressure application for few minutes. The additional cauterization of the excized umbilical bed should guarantee that secondary bleeding will rarely occur.

Periumbilical silver nitrate skin burns are not a problem after the procedure because there is only a small area left for cauterization. Additionally, repeated cauterizations which increase the chance of skin burn are not required.

Silver nitrate chips or sticks are recommended for cauterization of the granulation surface because this diminishes the chance of silver nitrate skin burn which occurs more frequently when liquid silver nitrate is used.

In conclusion, the author recommends that the treatment of umbilical granuloma should be excision and cauterization with silver nitrate rather than the traditional treatment with only silver nitrate cauterization. This is because complications can be avoided and the patients can be treated in one session.

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