Effect of Yin-Care Lotion for the Treatment of Burn

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Yin-Care Lotion is a lotion which applies mainly to vaginitis, pruritus ect. And the range of application has been extending since 1991 it has been used at the clinic. We started the clinical study to observe the effect of Yin-Care Lotion for the treatment of burn. We report the results here.

1. Information and Methods

1.1 General Information

From Jan. 1991 to Apr. 1992, 310 burned patients were included in this study. 205 males and 105 females, aged from 4 months to 46 years, and majority of them 60% were 20-40 years. 194 patients were treated bo be hospitalized, other 116 cases were treated at the out-patient department. The causes of burn included fire, hot liquid, acid and alkali. Burned areas were from 1% to 54%. 209 cases came with fresh wounds (II^{o} -shallow III^{o}), 70 cases with infected wounds and 31 cases with granulomatous wounds. The areas of wounds treated directly with Yin-Care Lotion were from 0.5% to 34%, 10 on the average.

1.2 Methods

For emergent cases, 1‰ Bromo-geraminum was used for routine cleaning to remove exfoliated scarfskin. 2-3 layers of sterile gauze were saturated with pure Yin-Care Lotion and applied to the burned wounds directly. Then the wounds were wrapped with 12-16 layers of dry gauze. The wounds were re-examined in 2 days. If there was a lof of exudation in the wound, the Yin-Care Lotion saturated gauze was removed after moistened with Bromo-geraminum solution and replaced with new Yin-Care Lotion – saturated gauze. After opening the outer layers of gauze, if we found the Yin-Care Lotion- saturated gauze inside dry and clean, we kept the gauze there without replacement and covering till the wounds healed and the gauze exfoliated itself.

For the infected and grnulomatous wounds, they were cleaned with 1‰ Bromo-geraminum of 1000-3000 fine diluted Yin-Care Lotion, them covered with pure Yin-Care Lotion saturated gauze, wrapped with dry gauze and cotton pad. The dressing was replaced every 2-3 days till wounds healed or the skin grafgting operation was applied.

1.3 Contrast Obervation Method

We chose the wounds with the same depth, similar area on the opposite side of the same patient as control, treated with Radix lithospsermi oiled gauze or sulfadiazine argentums (SD-Ag). The gegree of swelling and the speed of swelling relief, the rate of wound infection, them time for healing, and the rate of survival of grafed skin on granulomatous wounds were observed.

2. Results

2.1 The degree of swelling of 40 cases with two upper arms burned symmetrically (similar area and depth) are shown in Table 1.10 cases were admitted into the ward in 5-7 days after burned, with wounds infected, susceptibility and severe swelling. Table 2. The wounds of patients in this group involved elbows. We monitored the change of swelling upon the principle of buoyance by asking the patients to dip their hands and arms into normal saline, the change of the size of saline indicated the change of swelling.

2.2 The rate of infection of fresh wounds after treated with Yin-Care Lotion are shown in Table 3. Anti-infection abilities after treated with Yin-Care Lotion are shown in Table 4.

2.3 Time for healing of the wounds treated with Skinrpo Lotion are showm in Table 5. Among 24 cases, the rate of survival of grafted skin on granulomatous wounds treated with Yin-Care Lotion is 92±7%, treated with 1‰ Bromo-geraminum and Radix lithospermi oiled gauze is 67±14% ($p<0.01$).

3. Discussion

The results indicate that treatment of burn with Yin-Care Lotion can (1) reduce the amount of exudation in the period of shock, and reduce the accumulation of water among tissues; (2) stimulate the edma relief and accelerate the wounds dry; (3) desensitize the wounds; (4) anti-bacteria extensively, the sensitivity of bacterial are following from high to low: staphylococcus aureus, E coli, Bacillus aeruginosus, Bacillus proteus, fungi; (5) decrease the inflammatory reaction; (6) increase the rate of survival of grafted skin on the granulomatous wounds. The treament of burned wounds mainly deals with exudation and swelling in the period of shock, and infection after the period of shock. Among the ingredients of Yin-Care Lotion, Phellodendron bark and Radix sophorae flavescentis have a wide range of anti-bacterial functon, they can inhibit strongly the growth of staphylococcus' aureus, E. coli, Bacillus aeruginosus, L-type streptococcus sanguis, fungi, which are seen often in burned

wound infection. They can prevent the wounds from infection without causing resistant strains and super infection like antibiotics. In our country, Phellodendron bark and Radix sophorae flavescentis are used widely for burned wounds, but there is no report about using Cnidium monnieri and Atractylodes lancea on burned wounds. Radix sophorae flavescentis are used widely for burned wounds, but there is no report about using Cnidium monnieri and Atractylodes lancea on burned wounds. Radix sophorae flavescentis, Atractylodes lancea and Phellodendron bark have the functions of anti-inflammation and edema relief, which are good for burned wounds to get tissue regeneration and healing. The mechanism of Yin-Care Lotion to inhibit the exudation are through reducing the capillary permeability, anti-histamine, decreasing the production of inflammatory mediators. This character of Yin-Care Lotion is significant during anti-shock treatment for patients with large area burned.
At the beginning, we used Yin-Care Lotion on a patient with burned right upper arm, who is hypersensitive to all antibiotics, the result was quite satisfied. Later, during the treatment of burned wound with Yin-Care Lotion, we found that applying pure Yin-Care Lotion on the burned wounds directly would cause slight pain which lasted for less than 20 minutes among 2/3 patients, but t is almost nothing if compared with the pain caused by SD-Ag. So, Yin-Care Lotion can be accepted by patients easily. We added a few drops of 20% procaine or 1% Lidocaine into Yin-Care Lotion, the results got better. Half-hour after applying Yin-Care Lotion in wounds, most patients feel comfortable. There is no obvious itching on the patients applying Yin-Care Lotion when the wounds close to healing, and the patients treated with SD-Ag. Or oiled gauze can be used Yin-Care Lotion to stop itching stopped by covering the wounds with Yin-Care Lotion saturated gauze. This anti-pruritus function of Yin-Care Lotion comes from the effect of Cnidium Monnieri on neural terminals. When using Yin-Care Lotion for burn or soft tissue injury, we suggest adding Radix lithospermi, which has the function of anti-inflammation and stimulation of epithelial growth.

Table 1 Effect of Yin-Care Lotion Swelling in 40 Cases with Two Upper Arms Burned Symmetrically

Time	Volume (ml) (x±s)		
	Yin-Care Lotion	Contrast Group	
		SD-Ag	Oiled Gauze
Half hour after burn	2000±800	2000±800	2000±800
48 hours after burn	3800±1000	5200±1200	5400±1000
7 days after burn	2500±1000	3100±900	3500±1100

Table 2 Speed of Swelling Relief in 48 Hours after Treatment in 10 Cases with Two Upper Arms Swelled Severely

Drug	Cases	Volume (ml)	Volume (ml)
		Before treatment	After treatment
Yin-Care Lotion *	10	4900±1500	2500±1200
SD-Ag **	5	5000±1400	4700±1600
Oiled Gauze ***	5	4900±1600	4500±1200
* ($p<0.01$) ** ($p>0.05$) ***($p>0.05$)			

Table 3 Rate of Infection after Treatment with Yin-Care Lotion (Clinical study results)

Yin-Care Lotion Compared with SD-Ag (infected cases)			Yin-Care Lotion Compared with Oiled Gauze (infected cases)		
Cases	Yin-Care Lotion (%)	SD-Ag (%)	Cases	Yin-Care Lotion (%)	Oiled Gauze (%)
30	2(6)	12(40)	40	5(12.5)	19(47.5)

Total rate of infection: Yin-Care Lotion (10%) SD-Ag (44%) Oiled Gauze (40%)

Table 4 Change from Positive to Negative of Bacerial Culture of Wound Pus after Treatment with Yin-Care Lotion for 72 hrs

Bacteria	Compared with SD-Ag			Compared with Oiled Gauze		
	Cases	Yin-Care Lotion (%)	SD-Ag (%)	Cases	Yin-Care Lotion (%)	Oiled Gauze (%)
B. aerugionsus	14	10(71)	12(86)	6	4(67)	3(50)
S. aureus	11	11(100)	6(55)	13	13(100)	3(23)
E. coli	8	6(75)	5(63)	10	8(80)	5(50)
Fungi	4	4(100)	1(25)	5	5(100)	0(0)

Table 5 Time for Wound Healing after Treatment with Yin-Care Lotion

Type of Wounds	Compared with SD-Ag			Compared with Oiled Gauze		
	Cases	Days for Healing (x±s)		Cases	Days for Healing (x±s)	
		Yin-Care Lotion	SD-Ag		Yin-Care Lotion	Oiled Gauze
Shallow II°	47	9±3	13±4	52	9±4	9±3
Deep II°	39	19±4	25±5	46	18±6	20±4
Shallow III°	31	37±8	43±10	27	35±7	38±5
Infected (II) °	30	24±8	32±9	34	24±8	30±7