MEBO for Treating Eyes Burned by Athlete’s Foot Lotion

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【Abstract】Mistakenly drop athlete’s foot lotion into eyes may cause severe burn of conjunctiva and cornea and affect eye -sight. MEBO can be used to lessen corneal nebula and promote visual acuity after healing.

This paper reports 10 cases of eye burn treated with MEBO. All the patients healed. The average healing time was 15.5+11.7 days. Average visual acuity was 5.14+0.13. During the same period, 8 patients of eye burn were treated with chloromycetin eye drops and erythromycin eye drops. The average healing time was 20.1+10.1 days and average visual acuity 5.0+0.15. A comparison between the efficacy of MEBO and the antibiotics revealed that MEBO is superior to the antibiotics revealed that MEBO is superior to the antibiotics in shortenig healing time (P<0.01) and promoting visual acuity (P<0.05). MEBO also has the advantages of subsiding local inflammation and maintaining corneal transparency.

【Key words】MEBO; Athlete’s foot lotion, Conjunctivitis, Burns; Visual acuity.

The burn wound caused by athlete’s foot lotion, as one of chemical burns, is the focus of doctors, because it will cause serious dysopia if maltreated. In recent years, 10 cases of eye burns caused by athlete’s foot lotion were treated in our hospital by using MEBO and gained satisfying curative effects. Hereinafter, they were reported in detail.

I Material & Therapy

1. Clinical Data: Eighteen cases were treated in our hospital. The treatment group included 10 cases (10 eyes). Among them, 7 cases were male while 3 cases were female. They were 16-68 year-old (48.5 ± 16.9 year-old). Their disease courses were from 1 hour to 3 days. Particularly, 5 cases were hospitalized on the first day, 3 cases on the second day and 2 cases on the third day. The positions of burns: 2 cases of simple burns were in conjunctiva, while 8 cases of mixed burns were in conjunctiva & cornea. The logarithmicvisual acuity was 4.2-5.0 (4.56 ± 0.26). The control group included 8 cases. Among them, 6 cases were male while 2 cases were female. They were 15-69 year-old (49.0 ± 16.1 year-old). Their disease courses were from 1 hour to 3 days. Particularly, 3 cases were hospitalized on the first day, 3 cases on the second day
and 2 cases on the third day. The positions of burns: 2 cases of simple burns were in conjunctiva, while 6 cases of mixed burns were in conjunctiva & cornea. The logarithmic visual acuity was 4.3-5.0 (4.54 ± 0.21). The data of the two groups was mainly similar and had no obvious statistical difference (P>0.05).

2. **The Therapeutic Method:** For the treatment group, firstly dropped 1% guttae cocainae into the injured eyes to achieve surface anesthesia. Then, added 50ml 2% sodium bicarbonate into 500 ml 0.9% saline, directly irrigated the injured eyes with the mixture by using of transfusion tube. After complete irrigations, provided dsubconjunctival injections with 20-thousand u gentamicin. Applied MEBO onto the injured eyes and bandaged them. After 12 hours, undid the bandages and applied MEBO onto the injured eyes three times every day until they cured. For the control group, after complete irrigations, provided dsubconjunctival injections with 20-thousand u gentamicin. Applied erythromycin eye ointment onto the injured eyes and bandaged them. After 12 hours, undid the bandages, dropped 0.25% chloramphenicol eye drops 4-6 times every day and applied erythromycin eye ointment before sleep every night until they cured. At the same time, all the two groups were treated with oral vitamin medicines and the cases with serious burns were also treated with 1% atropine mydriatic.

II Result:

For the treatment group, including 10 cases, the healing time was 10-46 days (15.5 ± 11.7 days) and the visual acuity was 4.8—5.2 (5.14+0.13), while for the control group, including 8 cases, the healing time was 11—48 days (20.1 ± 10.1 days) and the visual acuity was 4.7—5.2 (5.0 ± 0.15). Between the two groups, the average healing time had marked difference (P<0.01) and the average logarithmic visual acuity after being cured also had obvious difference (P>0.05). The curative effect of MEBO was significantly superior to that of the control group.

III Typical Case:

Liu XX, female, 50 year-old, teacher, AD: 930540; had been dropped athlete’s foot lotion into the left eye by mistake for 12 hours; hospitalized on May 10, 1993. This patient was often treated with chloramphenicol eye drops for her medical history of trachoma. She also underwent tinea pedis. Because carelessly placed the two liquid medicines, she dropped athlete’s foot lotion into the left eye by mistake. She felt unbearable pain at once, immediately repeatedly irrigated with clean water and was hospitalized and treated in our hospital after 12 hours. Examination: OD: visual acuity: 5.2. OS: visual acuity: 4.7, upper & lower eyelids were edema; the left eye suffered from mixed congestion [++] , chemosis [++] , corneal diffuse opacity, edema [++] , exfoliation of corneal elastic layer, 4-8 clock positions of punctate ulcers which deepened into the parenchymal layer, turbid anterior chamber and contracted pupil. The left eye kept lacrimating and could not open. Diagnose: Burns of conjunctiva & cornea in the left eye caused by athlete’s foot lotion. After dropped 1% guttae cocainae, immediately irrigated the injured eyes, provided dsubconjunctival injections
with 20-thousand u gentamicin followed with 1% atropine mydriatic. Applied MEBO onto the injured eyes and bandaged them. After 12 hours, undid the bandages and applied MEBO onto the injured eyes three times every day. At the same time, treated her with oral vitamin medicines of C , AD, B2 and B6. After 7 days, vision of the left eye was 5.0, chemosis debated, the transparency of cornea was improved, and ulcers were mainly repaired. With continuous application of MEBO, the injured eye cured after 5 days with the vision of 5.2 and without corneal macula.

VI Discussion

Athlete’s foot lotion is a kind of specific remedy for tinea pedis with the main elements of ipecac tincture, salicylic acid, carbonic acid, benzoic acid and etc.. It can cause protein denaturation and the solution of corneous protein. Once athlete’s foot lotion burned eye, the consequence was miserable [1]. In the past, it mostly treated with erythromycin eye ointment. This medicine has favorable functions of antisepsis and anti-inflammatory, but its main element of Vaseline impairs the healing of burns [2]. Consequently, this traditional therapy will cost long treatment time and tend to cause corneal macular or leucoma.

The therapy of MEBO possesses following characters: (1) Accelerate the healing of burns. MEBO can directly participate in local nutrition. Namely, its components of sufficient saccharine, protein and vitamins can participate in metabolism and oxidation-reduction process and transport energy into endoplasm to accelerate the reparition of endothelial injury and the transport of moisture. Therefore, the application of MEBO can soon reduces corneal edema and maintains normal corneal moist and osmotic pressure. Furthermore, it will not affect wounds to absorb external oxygen while protecting wounds. The clinical observation showed that the healing time was greatly advanced. MEBO could cure wounds as soon as possible. (2) Preventing and treating the formation of corneal macular: vitamins of MEBO, concerned with the formation and regeneration of connective tissues, can abate the proliferation of opaque fibrous tissues and maintain the transparency and visual functions of cornea [3]. The clinical observation showed that the visual acuities of the treatment group after cured were markedly superior to those of the control group. (3) Anti-infection & abating tissue edema [4]. Cortex Phellodendri in MEBO can promote blood circulation to remove blood stasis, remove necrotic tissue and promote tissue regeneration, and abate inflammatory reaction [5]. The clinical observation showed that among the cases treated with MEBO, none underwent local infection and most congestions and edemas greatly abated after 5 days. The anti-infectious effect of MEBO was similar to that of erythromycin eye ointment. When conjunctival & corneal burns caused by athlete’s foot lotion are treated with MEBO, the injured eyes should be irrigated with amount of water in the earlier stage to dilute the concentrations of traumatogenic liquid medicines and abate the osmosis of the this medicines to the eyes. This is a vital process to prognosis.

The cases in this article were mainly aged male. This was probably concerned with the amnesia of elder. Through clinical observation, most burns located in 1/2-1/3 under the cornea that maybe directly because of their postures when the patients
used drug. Besides, few corneal macular was located at the center of pupil that benefited their visual recovery. The packages of athlete’s foot lotion that mostly are plastic small bottles with principal color are quite similar to those of chloramphenicol eye drops. Therefore, it is easy to mix up the two kinds of liquid medicines. In our daily life, the accidents have repeatedly occurred that regard athlete’s foot lotion as eye drops and drop it into eyes by mistake. This should arouse our attention to the package problem of athlete’s foot lotion. It is the most important measure to prevent conjunctival & corneal burns caused by athlete’s foot lotion that change and clearly mark the packages of athlete’s foot lotion indictors as soon as possible.

References