

CASE REPORT

Intravenous Ascorbic Acid as a treatment for Severe Jellyfish Stings

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We report a case of jellyfish envenomation in a 39 year old male. He was stung extensively on both lower limbs by an unidentified jellyfish. This occurred in shallow waters of a beach in the vicinity of Labuan

Island, Malaysia. The patient received ambulatory treatment with parenteral and oral ascorbate with remarkable recovery.

Key words: Ascorbic acid, Jellyfish stings, Humans

Jellyfish fish envenomation occurs in the tropics and subtropics worldwide (1) and recently the Irukandji syndrome made world headlines due to fatal cases following envenomation (2). Worldwide reported fatal cases with unidentified jellyfish species include documented fatal cases in Labuan Island, part of the larger Borneo Island (1, 3). In many instances the universal solution is topical vinegar application for at least thirty seconds as an immediate first aid measure, however, afflicted cases may develop systemic symptoms requiring hospitalization. In most cases of envenomation, almost all patients experience varying degrees of pain and even with recovery a considerable number of patients are left with lifelong scarring of affected areas. We describe a case of extensive jellyfish envenomation in a local 39 year old male in the vicinity of shallow waters of Labuan Island, Malaysia using a new modality of treatment with remarkable recovery as an outpatient case.

Clinical data

A 39 years old male electrician sustained multiple jellyfish stings to both his front thighs and back of both knees on January 10th, 2002 at about 14:30 hrs on the island of Labuan, Malaysia. The event occurred early afternoon while net fishing by a beach which is just 2 kilometers from the clinic. He was wading in waist deep waters tending to the net when he felt severe pain over the affected areas and realized he was stung by jellyfish. Immediately, he

used sand to rub/remove the stings and got home and applied household vinegar (within 20 minutes). However, the pain was excruciating, and he rushed to the clinic arriving around 15:00 hrs accompanied by his wife. After a lapse of 15 minutes the patient was evaluated. The patient presented extensive whiplash pattern of stings and erythema of the affected areas consistent with classical jellyfish stings. (jellyfish species not identified; see figure 1).

On physical examination, vital signs were stable, but the patient complained about considerable pain in the affected areas. The following treatment was begun: The patient received 45 grams of sodium ascorbate in 500 cc sterile water intravenously, infused at rate of two to three drops per second. Five mg of chlorpheniramine were added to the infusion. The patient reported a reduction of pain within 10 minutes of infusion. The infusion was completed in about 45 mins at 16:00 hrs. In addition the patient was given oral vitamin E capsules and 'nappyrash' cream (dimethicone/zinc oxide/calamine) to apply topically over the stings. He was given sodium ascorbate powder and



Figure 1. Lesions with whiplash pattern and erythema within 35 min of injury, before IV Vit C Treatment.

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advised to take 10 grams (3 teaspoons) in juices or bottled water per day for 10 days (100 grams powder given). and prescribed loratidine (1 tab. qd). He was recommended to repeat intravenous ascorbate infusion the following day and sent home. The following day he was seen in the morning at about 09:30 hrs, with the sole complain of a slight pain in the affected areas but otherwise unremarkable. He was given an additional 30 grams infusion of sodium ascorbate in 500 cc Lactated Ringer's (Hartmann's) solution and infused over one hour. He was recommended to continue oral sodium ascorbate and topical medication and asked to come back the following day for follow-up. Leg erythema and inflammation were diminished substantially 18 hours after therapy (figure 2).

He came back to the clinic on May 4th 2002, seeking treatment for his son and mentioned he was doing well. Very minimal scars were noted.



Figure 2. Erythema and inflammation substantially diminished 18 hrs after IV Vitamin C Treatment.

Discussion

The biomedical medicine management of jellyfish stings is essentially palliative (4). Intravenous sodium ascorbate at high doses is a nontoxic treatment that neutralizes the effects of a variety of toxins (5). Parenteral ascorbate in adequate dosages will ameliorate virtually any toxin and prevent complications if provided adequate dosages (5). We suggest that in severe cases of envenomation, to administer a rapid intravenous bolus of 15 grams sodium ascorbate over 5 minutes (15 grams sodium ascorbate in 60 cc water via 21 G cannula and to follow with a continuous intravenous infusion of 30-45 grams in Lactated Ringer's (Hartmann's) solution 500 cc over two hours. Meanwhile patient should be started on high oral dosages of ascorbate

(over 10 grams, preferably to bowel tolerance) and ensure that urine output is adequate, this is usually not a problem in almost all patients with normal kidneys as brisk diuresis follows ascorbate administration (5). To date, this is the first report to use ascorbate as treatment for jellyfish envenomation.

We have seen a few cases of jellyfish sting and other envenomations e.g wasp, caterpillar, and centipedes but most of the patients were previously hospitalized and seen after discharge. Most patients with jellyfish envenomations often endured residual painful and itchy dermatitis. This affliction is occasionally complicated with secondary infections and in most cases, permanent scarring as a result of dermatonecrosis. This mainly orthomolecular treatment with remarkable response was implemented omitting the use of analgesics. This treatment given timely is potentially lifesaving.

We hope this case will encourage the use of this very simple modality of treatment by medical personnel. Most importantly, this treatment may avoid painful sufferings of patients and possibly prevent unnecessary deaths and avoid or reduce the use of narcotic analgesics. We feel there is a need to offer this easy, economical and safe alternative of treatment with relatively no side effects. We have notified this case report to Dr. Peter J. Fenner of Australia for his attention. He is an expert on marine envenomation and keeps a website of worldwide reported marine envenomation and updated information of cases.

Resumen

Informamos el caso de quemaduras por veneno de medusa a un hombre de 39 años. El paciente recibió lesiones extensas en ambas extremidades inferiores por una medusa no identificada. Esto ocurrió en aguas llanas de una playa en la vecindad de la isla de Labuan, Malasia. La lesión se trató ambulatoriamente con vitamina C por vía endovenosa y oral lo cual produjo una recuperación rápida y notable.

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