LARVA CURRENS IN A CASE OF ORGANOPHOSPHOROUS POISONING

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Abstract

A 20-year-old healthy farmer consumed organophosphorous poison. On third day he developed diarrhoea and on fourth day linear serpiginous ulcers appeared on both buttocks. Clinically lesions were considered as decubitus ulcers. By stool examination and other laboratory investigations it was diagnosed as cutaneous larva currens due to *Strongyloides stercoralis* in a case of organophosphorus poisoning. Patient responded very well to a course of albendazole.

Key words: Larva currens, strongyloides stercoralis, organophosphorous poison

Cutaneous larva migrans (CLM) is dermatitis caused by the invasion and migration of larva of various nematodes in the skin. This entity is also known by various names such as creeping eruptions, sand worm, plumbers itch, duck hunters itch, epidermatitis linearis migrans etc. These larvae migrate 2-3 cms per day. The larva of *Strongyloides stercoralis* migrates at a rate of 5-6 cms per hour and are known as larva currens. Though larva currens has worldwide distribution, it is common in warmer, tropical and subtropical countries. The initial lesions of larva currens start as an erythematus itchy papule, soon these turn into linear, serpiginous, flesh colored, swollen lesions. Sometimes multiple vesicles may appear along the tract. Rarely hundreds of vesicular tracts may be seen in severely infected person.

Here, we report a case of larva currens in organophosphorus poisoning patient, which was considered as decubitus ulcer.

Case Report

A 20-year-old farmer consumed organophosphorous poison and was hospitalized at Government General Hospital, Manchariyala. He was not responding to any external stimuli. Treatment was initiated immediately with atropine and intravenous fluids. He was unable to move and as in supine position for three days. His condition soon improved but during this period he developed diarrhoea, passed watery stools 8 to 10 times per day. Linear, serpiginous, erythematous lesions measuring 4 to 8 cms appeared on both buttocks. Many lesions became vesicular, some of them ruptured and ulcers developed on both buttocks. The patient was transferred to Prathima Institute of Medical Science, Karimnagar. He had no history of diabetes mellitus, steroid therapy, chronic alcoholism and gastrointestinal or pulmonary symptoms. Clinically the case was diagnosed as post organophosphorus poisoning diarrhoea with mild dehydration. Linear erythematous lesions were considered as decubitus ulcers. His haemoglobin was 14.1 gm/dL, total leucocyte count was 9000 cells/cumm, neutrophils-68%, lymphocytes-22%, eosinophils-07%, monocytes-3% and no basophils. Biochemical parameters were within normal limits. He was HBsAg negative and negative for HIV 1 and 2 antibodies. Stool sample was watery with mucous flakes.

Microscopic examination revealed actively motile rhabditiform larvae of *Strongyloides stercoralis*. Trophozoites, cysts or ova of any other parasite were not seen in stool. Bacterial culture yielded *Escherichia coli*. The lesions on buttocks were now considered as larva currens due to *Strongyloides stercoralis* and treatment was initiated with albendazole 400 mg/day. The patient’s condition improved and ulcers started healing in six days.

Discussion

Cutaneous larva migrans can be grouped in to several types depending upon the species responsible for lesions and their clinical appearance. Type 1 (caused by animal hookworms-*Ancylostoma braziliensis*, *Ancylostoma caninum*), type 2 (human hookworms-*Ancylostoma duodenale*, *Necator americanus*), type 3 (Human *Strongyloides* - *Strongyloides stercoralis*), type 4 (Animal *Strongyloides* - *Strongyloides myopotom*, *Strongyloides procyonis*), type 5 (*Gnathostoma*) and type 6 (insect larvae).

*Strongyloides stercoralis* is widely distributed in tropical and subtropical cuntries where its prevalence may be 5 to 6% or even higher in humid low land. It is associated with poverty and unsanitary conditions. *Strongyloides stercoralis* in immunocompetent persons often remains asymptomatic or may produce abdominal pain, vomiting, diarrhoea, cough and weight loss and fever. In immunocompromised hosts
autoinfection results in dissemination of filariform larvae to various organs to produce hyperinfection syndrome. It may produce paralytic ileus, gastric strongyloidosis, septicaemia, pneumonia, meningitis. Strongyloides stercoralis is the common cause of larva currens and lesions appear in perineal area, medial surface of thigh and rarely on penis and palm.

In the present case, the patient might have been an asymptomatic carrier of Strongyloides stercoralis. Consumption of organophosphorous poison enhances the acetylcholine activity at parasympathetic postganglionic synapses. This in turn increases secretions from salivary, lacrimal, bronchial, gastrointestinal glands and also increases peristaltic activity of intestine. This might have led to sudden expulsion of large number of rhabditiform larvae of Strongyloides stercoralis in stool. As patient was unconscious and was in supine position for three days, a large number of rhabditiform larvae molded into filariform larvae and penetrated the skin on buttocks. The linear, serpiginous ulcers resembled decubitus ulcers but stool examination assisted in specific diagnosis and proper treatment.

We conclude that larva currens due to Strongyloides stercoralis should be considered as the possible cause of decubitus ulcers on buttocks especially in tropical areas where this parasite is endemically present. There is likelihood of an underlying cause for stimulation and release of rhabditiform larvae. In this case the triggering factor was organophosphorous poisoning. This case is being presented for this rare manifestation of an endemic parasitic infection.

References