CASE REPORTS

ACRODYNIA

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A 2-year-old girl presented with erythema, oedema and peeling of skin of hands and feet with marked irritability, salivation, rhinorrhoea and neurological symptoms following Sidha treatment. The diagnosis of acrodynia was confirmed by the presence of high levels of mercury in the urine as well as the Sidha medicines and by the improvement with D-penicillamine.

Key Words : Acrodynia, Mercury, D-penicillamine

Introduction

Acrodynia is a disease mainly of infants and children and is thought to be a hypersensitivity reaction to mercury.[1,2] The main source of mercury in the past was calomel in teething powders (Calomel disease).[3-5] Once a common condition, acrodynia is almost considered an extinct disease because of the discontinued use of teething powders and anthelminthics containing mercury.[2] We report a case of classical acrodynia following Sidha medication.

Case Report

A 2-year-old girl was admitted for complaints of pinkish red discolouration and swelling of hands and feet, erythematous maculopapular rashes on the trunk, irritability, lack of sleep and violent rubbing of hands together, of 1 month duration. There was history of using systemic and topical Sidha medicines for over a month, for pustular lesions over her legs, 1 month prior to the onset of present complaints.

She was extremely irritable, afebrile with pulse of 146/min and BP of 100/70mmHg. Her hands and feet were cold and clammy with pinkish erythema of hands and marked oedema of fingers with peeling of skin (Fig. 1). The feet had milder, but similar changes. The changes faded off at the wrist and ankles. She rubbed her hands together for long periods, holding them behind her head while grinding her teeth, and developed

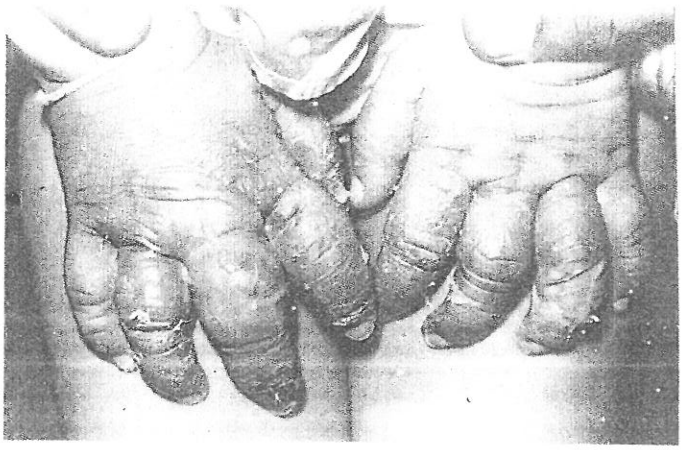

Fig. 1. Erythema with cyanotic congestion, oedema and peeling of the skin of hands

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deep linear fissures on the hands. She also had increased drooling of saliva, clear nasal discharge, profuse sweating, reduced urine output and slightly hyperpigmented maculopapular rashes on the trunk. She developed gingivitis, the incisor teeth loosened and later fell off (Fig. 2). Central nervous system (CNS) examination showed normal cranial nerves, but she had proximal muscle weakness, hypertonia with cogwheel rigidity at the ankle and elbow joints, loss of pain sensation in a glove and stocking distribution, brisk deep tendon reflexes, extensor plantar reflexes and positive snout reflex, but no neck rigidity or cerebellar signs. Other systems were normal.

Heavy metal poisoning, probably from the prolonged medication was suspected. Results of investigations were as follows.

Urine : albumin-positive, sugar-nil, crystals of amorphous phosphates present. Blood: Hb-11.2gm%, TC-9000/cc, $P_{51} L_{40} E_{9}$, ESR-3mm/hour. Blood urea-25mg%, serum creatinine-0.7mg%, serum bilirubin-0.6mg%. Reinsch test of the urine was negative for mercury. Chemical analysis of urine revealed presence of mercury in levels of 0.1% µg/ml and also traces of arsenic in urine as well as blood. Analysis of the Sidha medicines showed mercury levels of 140µg/ml in one and 30µg/gm in another and also presence of arsenic in traces.

A slit lamp examination of the eyes was attempted to look for presence of malt brown reflex from the anterior lens capsule, but it failed as the child was extremely irritable and uncooperative.

She was treated with oral D penicillamine 250mg twice daily initial for over 1 week, along with sedativ antihistamines and I/V fluids to whic furosemide was added to increase th urine output. There was marke improvement in her mental status, th irritability disappeared and frequency o hand rubbing decreased. About a wee later, there was a sudden development o gangrene of the left third finger. She wa managed with antibiotics and D

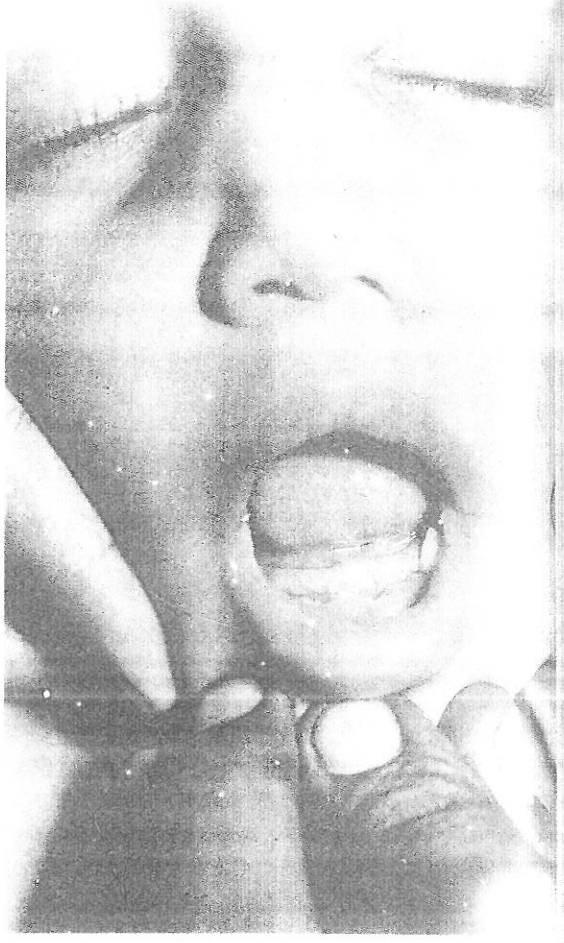

Fig. 2. Gingivitis and loss of incisor teeth

penicillamine was continued at 250m daily. Autoamputation at the proxima interphalangeal joint of the gangrenou finger occurred. She gradually recovere and over a period of one month all he symptoms subsided.

Comments

This child had all classical features of acrodynia. Only photophobia was not obvious, though the child adopted a prone position, most of the time. The occurrence of gangrene is reported in acrodynia, and in this case it resulted in autoamputation at the proximal interphalangeal joint of left third finger. Although in most previous reports, hypotonia is described, this patient had hypertonia which has also been described.[4]

Good response to penicillamine is reported in acrodynia,[3] as was in this case. Obvious improvement in the irritation and attitude of the patient was noticed within 48 hours of starting treatment. But it took nearly a month with a total of about 7.5 gm of D-penicillamine for the complete response.

The demonstration of high levels of mercury in the Sidha medicines and the urine supported the diagnosis. Though arsenic was present, acute arsenic poisoning is not known to produce erythema and itching of hands and feet, though painful oedema can occur.

Sidha medicines is used in many parts of India and contain mercury, arsenic and other heavy metals. However acrodynia is not seen commonly probably due to the fact that it is a hypersensitivity reaction. It is also possible that some of the cases are misdiagnosed because of lack of awareness of this condition.

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