INTRODUCTION

Post kala-azar dermal leishmaniasis, a dermatosis that may appear in patients apparently cured of visceral leishmaniasis (Kala-azar) caused by Leishmania donovani. Treatment options for the pediatric form are few and have serious limitations. In many geographic areas, the standard treatment of the condition is with daily potentially toxic sodium stibogluconate injections given for a prolonged duration of 30-60 days.

Patients and methods: The case of a twelve-year old boy with biopsy proven post kala azar dermal leishmaniasis whom was referred for consultation by dermatologist because of the development of cardiac symptoms while receiving sodium stibogluconate treatment course, was studied. The relevant medical literature was reviewed.

Results: After an apparent cure of visceral leishmaniasis achieved with four weeks treatment with sodium stibogluconate daily intramuscular injections, the boy developed post kala azar dermal leishmaniasis. After 20 days of additional treatment with sodium stibogluconate, the boy developed palpitation and tightness in the chest. The electroencephalography showed abnormalities consistent with cardiac toxicity mainly in the form of irregular rhythm. Review of the relevant literature revealed no particularly effective and safe alternative. However, the use of intermittent courses of sodium stibogluconate may help in reducing cardiac toxicity. Monitoring of pulse rate during antimonial therapy is important to detect early cardiac toxicity.

Conclusion: The need for a safer treatment of patients with post kala-azar dermal leishmaniasis continued. The use of intermittent courses of sodium stibogluconate and monitoring of pulse rate during antimonial to detect early cardiotoxicity may help in reducing cardiac toxicity.

KEYWORDS

Post kala-azar dermal leishmaniasis, Sodium stibogluconate, Cardiotoxicity
injections, the boy developed post kala azar dermal leishmaniasis. Skin biopsy showed heavy dermal inflammatory infiltration rich in plasma cells, lymphocytes, and histocytes showing amastigote bodies. The decision was made by the dermatologist to treat him with further course of Pentostam 5 ml daily (1ml sodium stibogluconate contains equivalent of 100 mg of pentavalent antimony). After 20 days of treatment, the boy developed palpitation and tightness in the chest. On referral, the dermatosis was improved leaving areas of facial pigmentation (Figure 1). The electroencephalography showed abnormalities consistent with cardiac toxicity mainly in the form of irregular rhythm. Chest radiograph and echocardiography showed normal findings. Immediate withdrawal of treatment was associated with disappearances of symptoms and normalization of the electroencephalography. Laboratory tests didn’t show any evidence of liver or hematological toxicity.

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**DISCUSSION**

Although sodium stibogluconate is potentially cardiotoxic, it remains the drug of choice for Kalaazar and cutaneous leishmaniasis in most areas of the world [1-8].

The use of low-frequency, long-duration pentamidine has been reported to be a useful alternative in maintaining any improvement resulting from high-dose, high frequency sodium stibogluconate. However, toxic effects included nephritis, hepatitis, transient diabetes and subcutaneous abscesses [3].

In one study including eighty patients with visceral leishmaniasis (kala-azar) treated with sodium stibogluconate, two patients were withdrawn from the study (one on day 6 of treatment because of cardiotoxicity in the form of supraventricular tachycardia and the other on day 24 because of severe loss of appetite. Thirty patients didn’t achieve complete cure with sodium stibogluconate were successfully treated with amphotericin B. Electrocardiographic changes occurred in many of the patients as the result of treatment with sodium stibogluconate including diminution in the height of the T wave in 32 patients (40%), inversion of the T wave in seven patients (9%), elevation of the ST segment in three patients (4%), prolonged QT interval (compared with baseline findings) in six patients (8%), and diminution in the height of the P and T waves in two patients (3%). Cardiac arrhythmia occurred in five patients (6%), supraventricular arrhythmia (coarse atrial fibrillation) occurred in one patient and ventricular tachycardia, ventricular fibrillation, torsade de pointes and multi-focal ventricular ectopics occurred in the four patients (5%) who died of cardiotoxicity [5].

The toxicity of two antimonial pentavalents were studied in 111 patients with cutaneous leishmaniasis. Forty-seven patients were treated with meglumine antimoniate, and 64 patients were treated with sodium stibogluconate BP 88, 20 mg/kg/day for 20 days. Higher frequency of aminotransferase abnormal levels occurred on the tenth and twentieth days in sodium stibogluconate group (p < 0.001), and a higher proportion of amilase abnormal levels at the tenth day also in the sodium stibogluconate group (p < 0.001). 43% of the patients treated with meglumine antimoniate, and 54% of the patients treated with meglumine antimoniate showed electrocardiographic abnormalities (p = 0.30) [6].

A study used amphotericin instead of sodium stibogluconate in unresponsive patients suggested that cardiac toxicity may be less common with amphotericin B than with stibogluconate [8].

The use of miltefosine has been suggested, but there is very limited experience in the use of miltefosine for treatment of childhood disease, and its efficacy has recently been questioned [2]. The available data dose not allow recommending that the long use of miltefosine treatment is safe.

**Acknowledgement**

The author would to express his gratitude for the parents of the patient who accepted publishing his photos.

**BIBLIOGRAPHY**


