HALOFANTRINE HYDROCHLORIDE - EFFICACY AND SAFETY IN CHILDREN WITH ACUTE MALARIA

Pages with reference to book, From 8 To 10

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ABSTRACT

Thirty two children with symptomatic malaria due to P. vivax and P. Falciparum infections were treated with three doses of Halofantrine hydrochloride 8 mg/kg body weight every 6 hours. Mean fever clearance was 30 hours (range 24-48 hours). No significant clinical or biochemical side effects were observed. Symptoms cleared rapidly. Halofantrine hydrochloride was found to be highly effective and appeared to have no side effects in children with acute malaria infections (JPMA 40: 8, 1990).

INTRODUCTION

Malaria is a serious and one of the most prevalent of all tropical diseases in children causing morbidity and mortality[1,2s]. Estimated 100-300 million new clinical cases of malaria occur each jear, of which approximately one percent prove fatal. [2-4] Pregnant women and children are more susceptible[3,5]. Malaria is also responsible for high infant mortality rate among many tropical and subtropical countries of the world[4]. Although more than 30 countries have either eliminated malaria or drastically reduced the number of cases, the transmission of malaria is rising globally[4,5]. The role of chemotherapy has been of great importance in control of malaria in the past. However, in the recent past the development of other environmental vector control strategies and techniques over shadowed the role of drugs. But now with the dramatic resurgence of malaria in many countries and increased resistance of vectors to insecticides, antimalarial drugs have regained their importance in control of malaria[6]. Although the resistance of plasmodiumto commonly used antimalarials is widespread and well known, especially in the developing countries, many other drugs used for malaria are also becoming of limited value[7-9]. Halofantrine, one of a series of phenanthrene methanols, has been shown to be highlyactive in vitro and to cure malaria in animal models[7]. At present there is little evidence of cross resistance between it and other antimalarials. Halofantrine is claimed to be effective against all types of malaria, particularly in multidrug resistant strains of P. falciparuin. It has simple dosage regimen with reportedly satisfactory toxicological profile. This studywas undertaken to find the efficacy and safety of Halofantrine in Pakistani children with malaria.

PATIENTS AND METHODS

Children aged between 6 months to 12 years with parasitaemia of 100 - 100,000/mm^3 having normal haematological and biochemical parameters within the context of active clinical malaria were included in the study. Children with a history of taking other anti-malarial drugs in the last 14 days, and patients with severe significant concomitant disease which made the assessment of the therapeutic response difficult, were excluded from the study. Thirty five febrile patients with presumed malaria were finally selected and subjected to peripheral blood screening. Dried non- fixed thick and thin film stained with Giemsa were examined under oil immersion x 100 magnification. All patients with parasitaemia of 100-100,000/ mm^3 were admitted. Specific diagnosis and asexual count was performed on all blood samples. Complete history, physical examination, were recorded and haematological (CP, ESR, RBC

and platelet count) and biochemical (LFT's, Creatinine, Urea, G6PD) investigations and urine analysis were carried out for every patient. All children were treated with Halofantrine hydrochloride suspension (100 mg in 5 mls) 8 mg/kg every6 hoursx3 doses, or the dose was used according to the body weight using the following schedule.
10-12Kg 100mg(5ml)
13-18 Kg 150mg (7.5 ml)
19-25Kg 200mg (10 ml)
26- 3Kg 250mg (12.5 ml)
32-37Kg 300 mg (15 ml)
38-40Kg 350 mg (17.5 ml)
Temperature, plasmodia asexual count, symptoms and detailed clinical examination were recorded twice daily till the patients became parasite free for 24 iiours upto day 03, and then on day 07, 14,21, 28. All adverse events and abnormal laboratory results were recorded and further evaluated as necessary.

RESULTS

Thirty two symptomatic patients with acute malaria completed the study during eight months period and were evaluated for efficacy assessment of Halofantrine hydrochloride. Sixty three percent of the children were males and 37% females. Nearly 16% had history of more than one attack of malaria in the past 6 months. Presenting complaints were fever (100%), headache (72%), and chills (56%)(Figure 1).

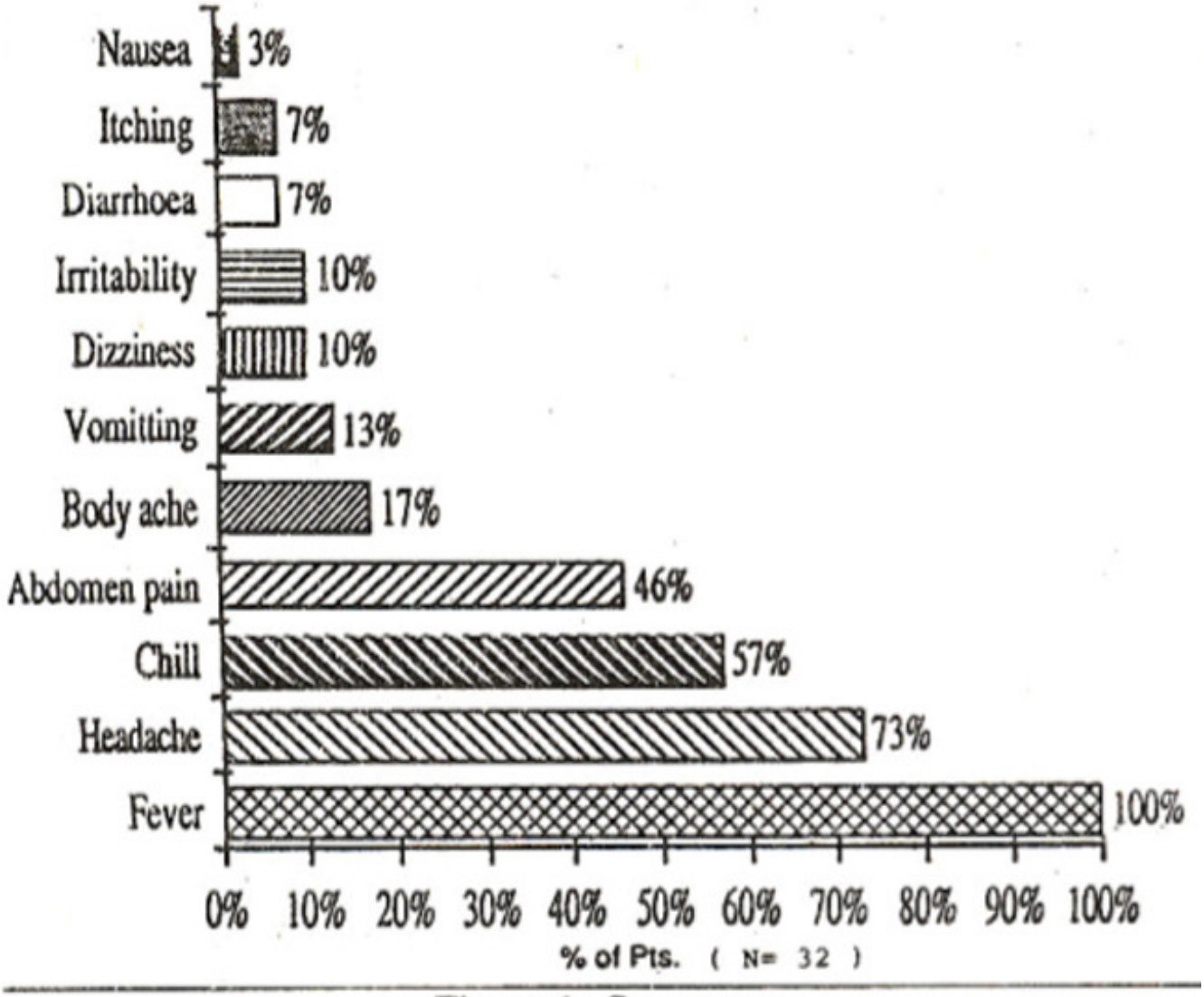

Figure 1. Symptoms.

A large majority had clinical anaemia (88%) and a quarter had splenomegaly; bepatomegaly was present in Figure 28% of the children. The parasite in most cases was found to be plasmodium vivax(88%) and plasmodiumfalciparum (13%). All patients showed fever clearance by 48 hours and mean clearance time being 30 hours. All evaluated patients became aparasitie by 48 hours, mean parasite clearance time being 27 hours (Figure 2).

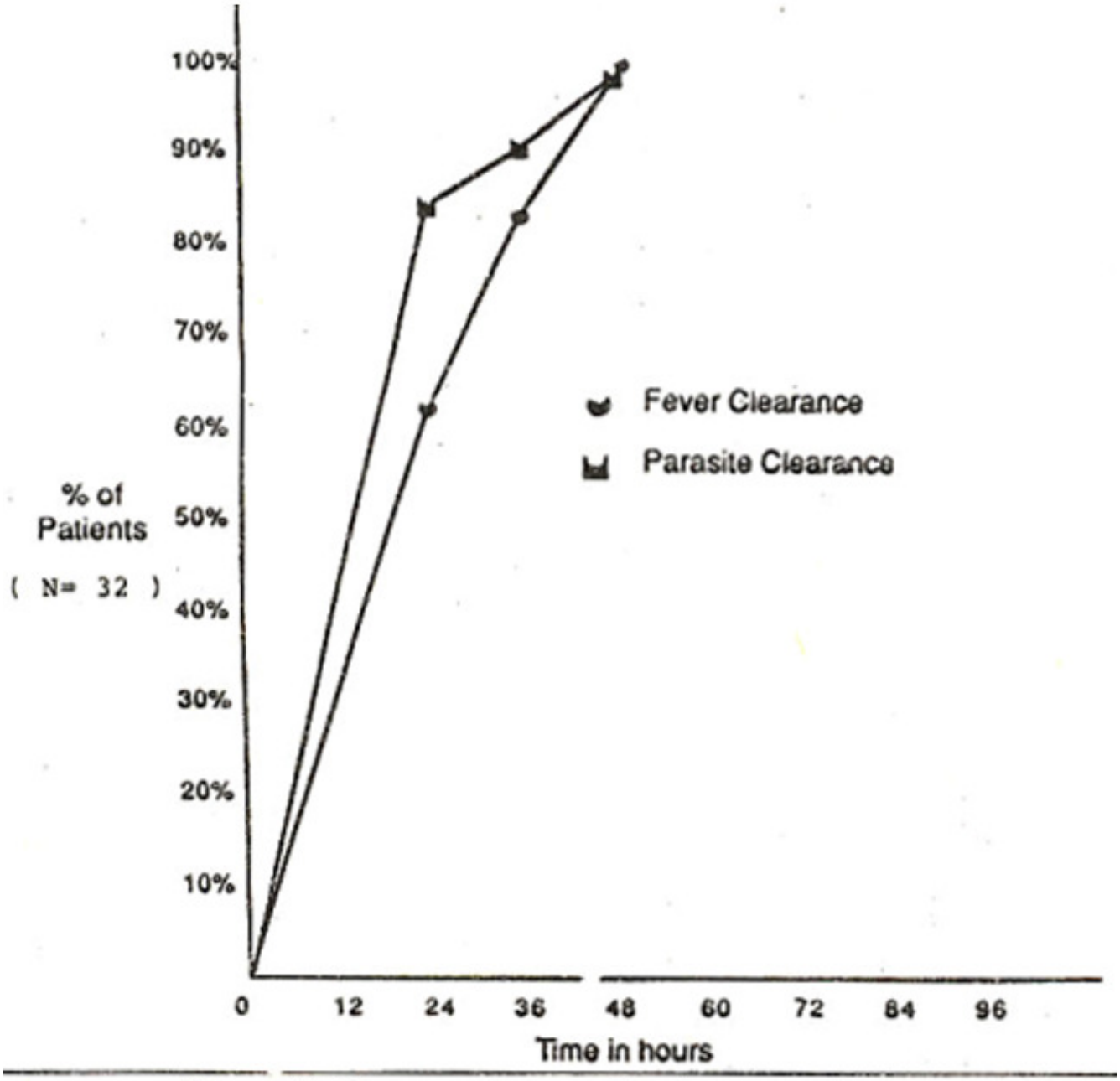

Figure 2. Fever and parasite clearance time.

DISCUSSION

Halofantrine hydrochloride given as three 8 mg/kg doses at six hourly intervals, was found to be effective in clearing parasitaemia and fever. The mean clearance time for both fever and parasitaemia was less than reported in other studies in Pakistan[9] and Malawi[10], but was consistent with similar study done in children of Babon[11]. The presence of anaemia and hepatosplenomegaly was similar to that reported in the literature[1,2,4]. The ratio of plasmodium vivax and plasmodium falciparum found in our patients was also consistent with other studies[12-14]. Clinical symptoms, associated with malaria infection cleared rapidly after treatment and patients were generally symptom free within 2-3 days. The drug was well tolerated in the dosage given as above, with overall cure rate of 100%. Halofantrine

hydrochloride was found to have good acceptability and was 100% effective in treatment of acute malaria in children. It was equally effective in cases with plasmodium vivax and p. falciparum malaria infections. It was well tolerated and free from side effects in our study sample. In practice however chioroquine should and will remain the drug of first choice in a country like ours where malaria is quite common. The cost of one course of Halofantrine is nearly thirteen times that of chioroquine. However as drug resistant strains of malarial parasites are being encountered in clinical practice, Halofantrine is a useful addition to the existing antimalarials. Although in our sample all children showed rapid response both in parasite count and fever reduction, further studies are needed with larger number of patients, where standard chioroquine/antimalarial treatment fails to clear parasitaemia.

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