Praziquantil use in Amebic dysentery

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Abstract:-

Amebiosis was one of the commonest causes of diarrial illness in pediatric age group in developing countries and there where multiple drugs used in its treatment .We selecting an infected and symptomatic patients and excluding the others. Those patients treated in different manner. Also divided in different age groups. We had two groups .first group treated with usual way by mitronidazol 50mg/kg/day for 10 days adding to that diloxanide furoate 20mg/kg/day for same duration to get ride of cyst form .The second group with praziquantil which subdivided in other two groups .One with 25mg/kg /day in single dose and other with 40mg/kg/in two divided doses 6 hour apart .Those patients had been followed for the response and the side effects to the drugs. The results are comparable and statistically no significant difference between the two groups. Regarding the side effect also no significant difference between both groups. The response to treatment depending on three successive microscopically stool tests (after3 days of treatment 3days between each test and other) and on the clinical response .This manner of follow up was true for 85% only and because it was the available way now in Iraq, So we advice to repeat such search in a larger number of patients and to depend on more recent PCR method to prove response to treatment. The only significant of praziquantil use was the short duration of treatment (single dose).The most significant side effect of praziquantil use was the bad test.

Introduction:-

The World Health Organization (WHO) ranks diarrheal disease as the second most common cause of morbidity and mortality in children in the developing world.[1] Many studies have been conducted in various geographic sites to identify the etiology of these diarrheal illnesses and to formulate a composite picture for estimating their global burden.[2] The etiological agents of diarrhea include viruses, bacteria, and parasites.[3] Among parasites, Entamoeba histolytica, Giardia intestinalis, and Cryptosporidium spp. are considered to be the most common and important.[4–6] Amebic colitis and liver abscess are caused by infection with the enteric protozoan parasite E. histolytica and the way of transition of the parasite was the cyst form which resist the acidity of the stomach. This parasite has recently been separated using modern diagnostic techniques from the nonpathogenic parasite E. dispar, which is more common and identical in appearance to E. histolytica.[7–9] The WHO estimates that ~50 million people worldwide suffer from invasive amebic infection each year, resulting in 40,000–100,000 deaths annually. Three successive GSE reveal about 85% of infected cases and can depend on it for follow-up the response of treatment especially if associated with clinical response. Praziquantel, in addition to its well known effectiveness in the treatment of schistosomiasis, has been frequently investigated in many protozoa and helminthic infections, such as neuro- and ocular cysticercosis, hydatid disease, fascioliasis, clonorchiasis and opisthorchiasis, in addition to Hymenolepsis nana and other taenia infections (10-14) .

However, the use of praziquantil in the treatment of intestinal amoebiasis and giardiasis had been examined clinically from a survey performed by Flisser et al. (15) In that

survey, stool examination was performed after administration of praziquantil to normal subjects in two rural communities.

Patients and Methods:-

290 patients (pediatric one... from 2months to 12 years old) were selected. All had E.Histolytica trophocyte and cyst by GSE (general Stool Examination).Those patients presented with different signs and symptoms (fever, vomiting, diarrhea, colicky abdominal pain and/ or tenesmus). 178 were treated with diazole (mitronidazole +Diloxanidefuroate)...(Group A) and 112 treated with praziquantil, 67 with 25mg/kg single dose(group B) and 45 with 20mg /kg /dose in 2 doses 6-8 hours apart (Group C). And follow up the patient's response and side effects. The response depends on clinical and Laboratory response. The laboratory response depend on negative three successive microscopically stool exam after three days of treatment and 3 days apart between each test and other. That applied for all patients above and excluding the cases not compliant to did all the three tests in above manner. (16) also we classified the patients according to the age into three groups 1st group from 2months -2years ,2nd group more than 2years -6years of age(preschool),and 3rd group more than 6 years till 12years old (school age). **As shown in the following table (1)**

Age	Number of patients use diazole	Number of patients use praziquantil in group B manner	Number of patients use praziquantil in group C manner
2months-2years	3patients	0	0
Preschool(2-6 years)	98 patients	12 patients	22 patients
School age(6-12years)	77	55	23

All the patients had been followed up during treatment for clinical side effect of the drug (neurological:-headache, dizziness ,arthralgia vertigo and malaise CVS;-palpitation, and arrhythmias, GIT:-neusea,vomiting,anorexia,diarrhea and abdominal pain Dermatological:- Urticaria, rash and itching) and also all that had been followed during the follow up of the results of GSE which was about 9 days post treatment which was a good time for the emergence of the side effect of the drug and all cases with poor complaint had been excluded from the study .

Results:-

The results of our study could be divided into :

1-The first group A: - 123patients (69.10%) respond clinically and GSE negative for cyst or troph. 31patients (17.41%) still had cyst only and clinically well and 24 patients (13.84%) still had troph. and cyst (not respond to treatment).

2-The second group B:-.The 67 patients treated with praziquantil 25 mg /kg single dose only 59 (88%) respond both clinically and lab. The remaining 8 (12%) patients 3 of them (4.48%) still had cyst in GSE but clinically well and 5(7.46%) had not respond to treatment both cyst and troph.

3-, the third group C: - only 3 (5.45%) patients had cyst only the remaining patients (94.5%) well respond to treatment .

Table (2): Outcome of treatment according to response .

Results	Group C	Group B	Group A
Respond (no cyst or troph.)	94.5%	88%	69.10%
Partial response(no troph.only cyst)	5.45%	4.48%	17.41%
No response	0%	7.46%	13.84%

From the above results the p-value more than 0.005 between the three groups which was statistically not significant, so we could use praziquantil to get same results of diazole in treatment of amebic dysentery.

Regarding the side effects our results for praziquantil use, 4 patients (11.7%) of preschool age group developed nausea 3 of them (13.6%) from group B and 1 from group C (8.3%).Only one patient from school age group and group B develop vomiting (1.8%), these percentage for each group but as a total side effects 5patients developed side effects of 112 patients use praziquantil 4.5%..But all the patients agree with the brittle test of praziquantil which prevents many patients from the use of this drug .The side effect of diazole use (group A). 12 patients developed nausea only 6.7%, and no other side effects had been developed. The p- value between the two group more than 0.005 and no significant difference between the two groups regarding the side effects.And no critical side effect had been developed could prevent us from the use of praziquantil.

Discussion:

.Amebic dysentery is one of the causes of the infectious food burden disease affecting many pediatric age groups in the developing countries. It was detected even in infant age groups. It is important to use a treatment for both active(Trophocyte) and cyst form of the ameba to prevent the disease transition . The use of praziquantil in treatment of amebic dysentery had good results with comparable effect of mitronidazol. The praziquantil had short duration (single dose) in treatment of amebic dysentery which improves patient compliance. In addition in pediatric age group it is so difficult to continue on oral intake of medications for 7 -10 days in 3 divided doses. Therefore the poor complaint of treatment with the use of mitronidazole was the most important cause of poor response to the treatment. Also should not using drugs had major side effect prevent the use of it. The patient using praziquantil develop no neurological side effect nor cardiac one and very few side effects which was not significantly different from that with mitronidazole use apart from simple bitter test of praziquantil . Although we depend our results on simple GSE but we did more tests (3 tests) and that because of unavailability of PCR method which was more accurate . It was advisable to repeat such research on more numbers of patients and using more specific tests such as PCR test.

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