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Research Paper

Severe Falciparum Malaria: its Epidemiological Distribution & Varied Clinical Presentation and Outcome.

Medical Science

KEYWORDS : Thick & thin blood smear, Plasmodium Falciparum malaria,

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ABSTRACT

Aims: Study was conducted for various clinical presentation, different stages of coma and its relation to mortality under Glasgow coma scale and age, sex distribution in cases of severe falciparum malaria. Methods and material : Total 48 cases of severe Plasmodium Falciparum malaria were selected clinically, these cases were confirmed by microscopic examination of thick and thin blood smear and rapid diagnostic test. Observation: Patients were age between 5 to 10 years (54.1%). All the patients were fever and 31 of them were fever with rigor. 84.5% were pallor, 37.5 % were unconscious with respiratory symptoms, 14.5% cough, 6.25%, breathlessness, 43.5 % convulsion, 12.5 % neck stiffness, one patient were aphonia. 39.5 % were GCS less than 10 , 33.3 % were GCS in between 10 and 14 while 27.3 % were GCS 15. Conclusion: High index of suspicion and awareness about varied specific and non specific manifestations of severe falciparum malaria is necessary for a diagnosis and management of the disease , which will reduce the mortality and morbidity of this lethal condition of Plasmodium Falciparum malaria.

Introduction:

With the continued advancement , disease like AIDS are getting more attention but still Malaria remains the most widespread disease in the world.[1] At present about 100 countries in world are considered malarious, almost half of them are in sub Saharan Africa. Malaria is thought to kill between 1.1 – 2.7 million people every year of whom about 1 million are children. Alone in India during 2003 there were 1.65 million reported cases of malaria with 943 deaths.2

Severe and complicated falciparum malaria is defined by the presence of asexual parasitemia of P. falciparum in the peripheral blood with signs of cerebral malaria, severe anemia, respiratory distress, hypoglycemia, renal failure, black water fever etc.Becuse of wide varieties of presentation of this disease, to reduce morbidity and mortality early diagnosis and treatment should be the first priority in this case.[3,4] Aim of this study was to study the various clinical presentation, different stages of coma and its relation to mortality under Glasgow coma scale and the age and sex distribution in cases of severe falciparum malaria.

Methods and material :

This study was conducted in the Department of Paediatrics, Katihar Medical College, Katihar from February 2013 to May 2014. Total 48 cases of severe Plasmodium Falciparum malaria were selected clinically, later on these cases were confirmed by microscopic examination of thick and thin blood smear and rapid diagnostic test.[5,6] All these patients were from age group of 18 months to 12 years and about 62% were from low socioeconomic group.

Statistical Analysis:

A pretest-posttest obsevation is used for the study. The data was analyzed using the MS Office Software.

Observation:

Table 1 to 5 details the observation of present study, table shows that the maximum number of cases were between 5 to 10 years (54.1%). 33.3 % were in age group of 1 to 5 years and 12.5% were more than 10 years.

All the patients admitted were fever and 31 of them were fever with rigor. 84.5% were pallor at admission. 37.5 % were unconscious at admission but respiratory symptoms were found in only few patients 14.5% cough, 6.25% were breathlessness.

43.5 % were convulsion during admission and 12.5 % were neck stiffness. Only one patient was aphonia. And 39.5 % were Glasgow coma scale (GCS) less than 10 , 33.3 % were GCS in between 10 and 14 while 27.3 % were GCS 15.

Discussion:

Total 48 cases were included in this study. Their age ranged from 1.5 years to 12 years out of which 33.3% of the cases were in age group of 1 to 5 years, 54.1% were in age group of 5 to 10 years and 12.5% were more than 10 years.

All the cases were presented with fever with or without rigor . Pallor was noticed in 84.5 % of case and splenomegaly was found in 62.5 % of the cases .Respiratory symptoms like cough (14.5 %) and breathlessness (6.25%) were also observed. Out of the 48 cases 43.5% were convulsions and 12.5% were neck stiffness at admission. 2% cases also was aphonia . When GCS score was done 39.5 % case were less than 10 and 33.3 % wereGCS in between 10 to 14. Only 27.5 % of the cases were conscious (GCS -15).

Conclusion:

Sever falciparum malaria presents with various type of clinical manifestations like fever with or without chills and rigor, convulsion, impaired consciousness, neck rigidity, jaundice, vomiting, and pulmonary edema and shock. It was the commonest manifestation of sever falciparum malaria followed by severe anemia, vomiting and jaundice. Overall mortality rate was 19%, Pulmonary edema and shock are the serious complications of severe falciparum malaria. Residual neurological deficit is less common in patients who got cured.

High index of suspicion and awareness about varied specific and non specific manifestations of severe falciparum malaria is necessary for a diagnosis and management of the disease , which will reduce the mortality and morbidity of this lethal condition.

TABLE NO. 1
Showing age distribution of the cases under study (n- 48)

Age in years	No. of cases	Percentage
0 - 1	0	0
1 - 5	16	33.3%
5 - 10	26	54.1%
More than 10	06	12.5%
TOTAL	48	100%

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Table No. 2: Sex distribution of the cases under study

Sex	No. of cases	Percentages
Male	38	79.1
Female	10	20.9
Total	48	100

Table No. 3:
Various clinical manifestation among cases under study

Sr. No.	Clinical Features	No. of Cases	Percentage
1.	Fever with or without chill	48	100
2.	Splenomegaly	30	62.5
3.	Conscious	12	25
4.	Semiconscious	16	33.3
5.	Unconscious	18	37.5
6.	Pallor	41	84.5
7.	Headache	10	20.8
8.	Pain abdomen	6	12.5
9.	Cough	7	14.5
10.	Breathlessness	3	6.25

Table. 4: Various CNS manifestation in the cases under study.

NO.	Symptoms	No. of cases	Parentage
1.	Convulsion	21	43.5
2.	Neck stiffness	6	12.5
3.	aphonia	1	2

Table. 5: Different stages of coma classified on the basis of Glasgow Coma Scale (GCS).

Sr. No.	Coma scale	No. of cases	Percentage
1.	Less than 10	19	39.5
2.	10 - 14	16	33.3
3.	15	13	27.3
	Total	48	100%

REFERENCE

1. Abadalla S, Weatherall Dj, Wiekram Singhe SN : The anemia of falciparum malaria British Journal of Hematology 1980, 46:171-83. | 2. Annobil SH, Okeathiaalam TC , Jamjoom GA, . Malaria in children experience from Asia region . Sandi Arai Ann Saudi Med 1994: 14:467-70. | 3. Bassett MT, Taylor P, Bvirakare J, Chiteka F. Clinical diagnosis of malaria : can we improve? Trans Trop Hyg 1991; 94:65-69. | 4. Brewster, Kwiatkowski D, White NJ , Neurological sequelae of cerebral malaria in children. Kancet 1990; 336:1039-43. | 5. Burchard GD , Radloff P, PHILIPS j, Nyemi N, Knobrock J. Incresed erythropoietin protion in children with severe malarial anemia. Am J Trop Med Hyg .1995; 53: 547-551. | 6. Brabin B J , Premji Z, Verhoeff F. An analysis of anemia and child mortality. 2001 J. Nutr. 131: 636s-648. |