

KALA-AZAR (VISCERAL LEISHMANIASIS) IN CHILDREN

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SUMMARY

Clinical presentations of kala-azar (visceral leishmaniasis) are varied in children and adults. This may at least initially mimic many tropical and hepatobiliary diseases. This paper is an attempt to see the clinical presentations of kala-azar in children. Eleven cases are analyzed, retrospectively admitted in a pediatric unit of a tertiary care hospital in the southern part of Bangladesh. Fever 91%, Jaundice 55%, splenomegaly 100%, hepatomegaly 91% are common findings. Presence of jaundice and ascites may mimic chronic liver disease which is suspected in 36% in this series. Awareness regarding these uncommon features will help in diagnosis.

KEYWORDS: Kala-azar, Children.

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INTRODUCTION

Infection with different species of leishmania can cause cutaneous lesion, ulceration of the oronasal mucosa or visceral dissemination.¹ Visceral leishmaniasis is commonly known as Kala-azar. It is now endemic in 88 countries with a total 350 million people at risk.² World wide there are estimated to be approximately 5,00,000 cases of visceral leishmaniasis per year.³ Ninety percent of all kala-azar cases occur in Bangladesh., Brazil, India, Nepal and Sudan.⁴ In Bangladesh the number of cases in northern district are alarmingly high.⁵⁻⁷ Sporadic cases are found in other parts also. The disease is characterized by chronic fever, hepato-splenomegaly, emaciation and anaemia.^{8,9} So far literature search has revealed no appreciable differentiation in epidemiological, clinical presentation of Kala-azar in adult and pediatric age group has been described except jaundice and ascites which may be rarely encountered in children.^{1,10} The experiences in this short series are analyzed about

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the atypical presentation of kala-azar patient admitted in a hospital in the southern part of Bangladesh.

METHODOLOGY

This is a retrospective study of Kala-azar in which patient admitted in the pediatric ward during the January 2005 to may 2006 were included. The diagnosis was made by serology test ICT (Immunochromatography) and Bone marrow study. All the cases were diagnosed by positive serology test and presence of LD (Leishmania Donovanii) in the bone marrow

aspirate. There age and sex distribution was done. Age range was 1-12 years. Clinical presentations and investigation reports were analyzed and on admission clinical diagnosis was observed in each patient.

RESULTS

Among the eleven cases (6girls, 5 boys) majority were between the ages of 5-12 years. In our observation, the presenting symptoms of fever, yellow discoloration of eye and urine, loss of weight, pain in the abdomen was found in 10(91%), 6(55%), 3(27%), 3(27%)

Table-I: Kala-azar: A clinical profile

| Parameters | Case1 | Case2 | Case3 | Case4 | Case5 | Case6 | Case7 | Case8 | Case9 | Case10 | Case11 |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| Age | 4Yrs | 8Yrs | 5½Yrs | 10Yrs | 9Yrs | 7Yrs | 12Yrs | 9Yrs | 9Yrs | 5Yrs | 8Yrs |
| Sex | F | M | M | F | F | M | F | M | F | F | M |
| Symptoms | | | | | | | | | | | |
| Pain in the abdomen | A | A | A | A | + | A | A | + | A | A | + |
| Fever | + | + | A | + | + | + | + | + | + | + | + |
| Bleeding | A | A | A | A | A | + | A | A | A | A | A |
| Loose motion | A | A | A | A | A | A | A | + | A | A | A |
| Cough | A | A | A | A | A | A | A | A | + | A | A |
| Anorexia | A | A | A | A | A | A | + | A | A | A | A |
| Loss of weight | A | A | + | A | A | A | + | A | A | + | A |
| Yellow colour of eye or urine | + | + | A | + | + | A | A | A | + | A | + |
| Signs | | | | | | | | | | | |
| Anaemia | + | + | + | + | + | + | + | + | + | + | + |
| Jaundice | + | + | A | + | + | A | A | A | A | + | + |
| Oedema | + | A | A | A | A | A | A | A | A | A | A |
| Hepatomegaly | + | + | A | + | + | + | + | + | + | + | + |
| Splenomegaly | + | + | + | + | + | + | + | + | + | + | + |
| Ascites | + | A | A | A | + | A | A | A | + | A | A |
| Clinical diagnosis | | | | | | | | | | | |
| CLD | + | + | - | + | + | - | - | - | - | - | - |
| CHA | - | - | - | - | - | - | - | + | - | - | - |
| Kala-azar | - | - | + | - | - | + | + | - | + | + | + |

A=Absent; F=Female; M=Male; CLD= Chronic Liver Disease; CHA= Congenital Hemolytic Anaemia; A= Absent. + (present).

respectively. As regards the clinical signs, anaemia of different degree and splenomegaly was observed in 11(100%), Hepatomegaly in 10(91%), Jaundice in 6(55%), Ascites in 3(27%) cases. Out of 11 patients, 8(73%) had hemoglobin level much below normal level, 9(82%) with high ESR, Leucopenia and relative lymphocytosis was not observed in any of our patients. Raised serum bilirubin and SGPT level was observed in 6(56%) cases. HBsAg was done in patients who presented with jaundice. The entire child had negative HBsAg. Initial clinical diagnosis of Chronic liver disease (CLD) was made in 4(36.3%), Kala-azar in 6(55%), Congenital hemolytic anaemia in 1(9%) patients.

The details of the clinical profile and investigative findings were shown in Table-I&II. All the cases were treated with appropriate dose and course of Sodium stibogluconate.

DISCUSSION

Kala-azar is not uncommon in Bangladesh irrespective of age and sex. In our observation in this short series female was a bit more affected than the male which corresponds with the study by Mamoon ABA & et al.¹¹ This might be because females were more exposed as they remain in the house most of the time day & night in our context. The age between 5-12 years was the most vulnerable in our series. It had been seen in India as well were the peak

age of the disease was 5-9 years.¹² This was almost similar to our observations. The important clinical features are generally similar in different geographic regions like chronic fever, hepato-splenomegaly, Anaemia, emaciation.¹ Jaundice of different degree was observed in this series in number of patients in addition to the usual clinical presentations. Accordingly initial clinical diagnosis of chronic liver disease (CLD) was made in significant number of case which was misleading. Raised serum Bilirubin and SGPT was observed. These events might be due to hepatitis caused directly by protozoa (LD bodies) itself or indirectly by the effect related to the immunological response of the parasites. In this area, kala-azar is a disease which has jaundice including other features rather than the disease in endemic form in the northern part of Bangladesh. Leucopenia with relative lymphocytosis is marked in kala-azar.¹³ This is not similar to our experience. None of the patients in our series show leucopenia and relative lymphocytosis. This chronic infection might not have any impact in the usual inflammatory response of the disease in children. In the presence of jaundice and absence of leucopenia and relative lymphocytosis might be misleading events for the diagnosis of the kala-azar.

In conclusion, it is to be mentioned that jaundice with other consistent clinical features should not always necessarily be considered

Table-II: Kala-azar: Investigative findings.

| Parameters | Case1 | Case2 | Case3 | Case4 | Case5 | Case6 | Case7 | Case8 | Case9 | Case10 | Case11 |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| TLC | 8800 | 6000 | 7550 | 6500 | 13300 | 10850 | 4800 | 7800 | 5800 | 5800 | 5700 |
| Hb% | 44% | 60% | 56% | 60% | 43% | 44% | 52% | ND | 46% | 30% | 42% |
| N | 67% | 40% | 55% | 54% | 84% | 39% | 47% | 51% | 57% | 54% | 54% |
| L | 28% | 50% | 41% | 44% | 15% | 60% | 50% | 45% | 39% | 44% | 43% |
| ESR | 136 | 76 | 140 | 112 | 130 | 107 | 95 | 150 | 140 | ND | 128, |
| S. Bilirubin (mg%) | 9.2 | 2.3 | ND | 3 | 1.1 | ND | ND | 1 | 2.4 | 2.8 | 1.5 |
| SGPT | 102 | 240 | ND | 152 | 81 | ND | ND | 48 | 21 | 48 | 40 |
| HBsAg | - | - | ND | - | ND | ND | ND | ND | - | - | - |

TLC = Total Leucocyte Count / cu mm, Hb= Hemoglobin, N= Neutrophil, L= Lymphocyte, ESR = Erythrocyte Sedimentation Rate in mm in 1st hour, S= Serum, SGPT= Serum Glutamic Pyruvate Transaminase in international unit, HBsAg= Hepatitis B Surface Antigen, ND= Not Done.

as other diagnosis. This was a small case series and there is a need for large scale study for further evaluation. Whether Jaundice is to be considered further as an atypical presentation or as usual presenting features of kala-azar in some parts of the world also needs to be vividly studied?

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