VISCERAL LEISHMANIASIS IN CHILDREN A NEW FOCUS IN AZAD KASHMIR

Pages with reference to book, From 230 To 233

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Abstract

Fourteen cases of Visceral Leishmaniasis, all children below 8 years of age, were diagnosed at Rawalpindi from March 1983 to September 1985. Nine out of these fourteen cases came from Azad Kashmir, a hitherto unreported endemic area. All the cases were severly toxic with irregular fever, anaemia and hepatosplenomegaly. The diagnosis in each case was made by bone marrow examination. Some of these cases were treated with sodium stibogluconate with satisfactory response (JPMA 36: 230, 1986).

INTRODUCTION

This parasite is transmitted by the bite of sandfly belonging to the genus phlebotomus in the old Visceral Leishmaniasis is a protozoal disease world and genus Lutzomiyia in the new world, caused by the protozoan L'eishmania donovoni. p.argentipes and P. burneyi being the vectors in Pkistan. [1] The disease has a world wide distri bution although most cases are reported endemically from tropics and subtropics. The disease does acquire epidemic proportions occasionaly e.g. more than 50,000 cases were reported in North Bthar in 1978.[2] The reservoir of infection is maintained by man in India and animals like dogs, rodents and jackals in other parts of the world. [1] The disease is transmitted from the reservoir to the susceptible population via the vector's bite. Incubation period is usually four to six months but up to 10 years has been described. The parasite colonises the RE system in man causing organomegaly and pancytopenia due to splenomegaly leading to infections and toxaemia in these patients.[3]

MATERIALS AND METHODS

All cases diagnosed at Armed Forces Institute of Pathology Rawalpindi, Army Medical College Rawalpindi and Military Hospital Rawalpindi, from March 1983 to September 1985 were included in the study. The cases were from either sex and both from the armed forces as well as civil population. Complete blood counts were done on a Coulter counter model S7 in all the patients. Blood films were stained with Leishman stain. Platelet count was done in the improved Neubaur chamber. Bone marrow was aspirated with a standard aspiration needle and at least 10 smears were prepared and stained with Leishman stain. Marrow trephine biopsy with a Jamshidi needle was done in case where aspiration yielded no marrow. Trephine imprints were stained with Leishman stain and paraffin embedded sections withH& Estain.

Fourteen cases of visceral leishmaniasis were diagnosed during this period. Out of these 14 cases, 9 cases came from various places in Azad Kashmir, majority being from district Poonch (6 cases). Other 3 cases came from district Muzaffarabad (Table 1).

TABLE – I
Visceral Leishmaniasis – Location of Cases.

Chakothi – Muzaffarabad (AK)
Dirkot – Poonch (AK)
Abbottabad (NWFP)
Rawalakot – Poonch (AK)
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Mehri – Rawalpindi
Biger Teh Murree – Rawalpindi

Of the rest of the cases, one came from a village near Abbottabad, not a known endemic area, two from Gilgit Agency which is a known endemic area and two from district Rawalpindi again not a known endemic area. Majority of the cases were males, male to female ratio being 3.7:1. All the cases were below the age of 8 years, the range being 2-8 years with a mean of 3.52 years. 13 cases were 5 years or

less in age (Figure 1).

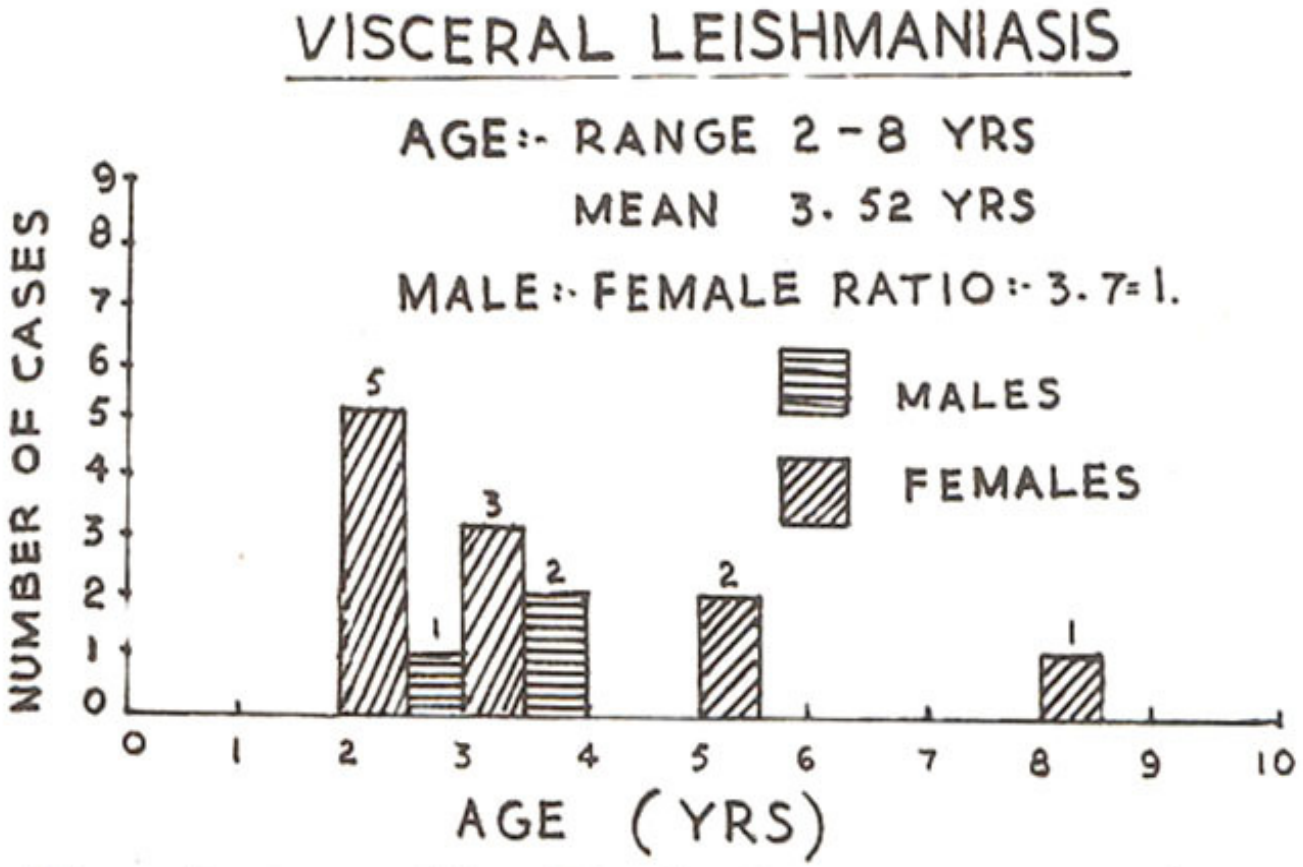

Figure 1. Age and Sex Distribution.

Onset was insidious in all cases, symptoms having been present from 3 months to as long as 2 years with an average duration of 6 months. All cases presented with irregular fever, abdominal protuberance and pallor. Other symptoms included generalised weakness or respiratory and gastrointestinal infections (Table II).

TABLE – II
Visceral Leishmaniasis.

Presenting Symptoms	Number	Percentage
Irregular fever	14	100
Abdominal distension	12	86
Weakness	06	43
Cough	03	21
Epistaxis	02	14
Hoarseness of voice	01	07
Diarrhoea	01	07
Inability to walk	01	07
Loss of weight	01	07
Bloody stools	01	07

Hepatosplenomegaly and anaemia were present in all cases while 11 cases (79%) had generalised lymphadenopathy. Spleens were usually massive and firm whereas liver enlargement was moderate, firm and non tender. Lymphadenopathy involved cervical, axillary and inguinal groups, the glands being firm and non tender. 5 cases (36%) showed growth retardation (Table III).

TABLE – III
Visceral Leishmaniasis.

Presenting Signs	Number	Percentage
Splenomegaly	14	100
Hepatomegaly	14	100
Pallor	14	100
Lymphadenopathy	11	79
Growth retardation	05	36
Bronchopneumonia	02	14

Emaciation, listlessness and malnourishment was evident in most cases.
Laboratory investigations revealed anaemia in all the cases (Table IV).

TABLE – IV
Visceral Leishmaniasis Blood Findings.

Patient No.	HB (g/dl)	TLC ($X10^9/l$)	Neutrophils %	Platelets
a	10.0	5.8	07	25
b.	8.0	5.0	27	490
c.	5.0	2.4	45	30
d.	5.6	7.8	13	25
e.	5.6	2.7	11	18
f.	5.7	4.0	05	25
g.	5.2	7.0	19	47
h.	3.2	1.8	38	–
i.	9.3	5.0	30	93
j.	5.8	3.5	18	–
k.	8.1	3.0	20	60
l.	8.3	6.1	30	69
m.	5.5	2.3	32	25
n.	7.0	3.4	01	60

Haemoglobin ranged from 3-10 g/dl with a mean of 6.6 g/dl. 8 cases (57%) were severly anaemic with a haemoglobin of > 6 g/dl. WBC count ranged from 1.8-7.8 $X10^9/1$ with a mean of 4.3 $X10^9/l$ (Table IV). 7 cases (50 %) showed leukopenia where as 100 % showed neutropenia. Platelet count was done in only 12 cases. The count ranged from 18-490 $X10^9/1$ with a mean of 80 $X10^9/1$. 11 cases (9 1%).

Out of 12 had platelet count of <100 $X10^9/1$ (Table IV).
Protein electrophoresis was done in only 4 cases and globuline were found to be markedly raised in all of them.
Definitive diagnosis was made by finding L.D. bodies in bone marrow. They were present in abundant numbers, mostly extracellularly except in one case where the number of parasites was very scanty and a repeat marrow aspiration and trephine biopsy had to be done to arrive at the diagnosis.
All cases were treated with antimony compound, sodium stibogluconate, 20 mg/kg body weight IM daily for 10 days. One patient was given two courses 10 days apart. Patients were also given supportive elements like packed cells, haematinics, vitamins and high calorie diet. There was only one fatal case due to bronchopneumonia. All other cases showed marked improvement with temperature settling down in 2 weeks time and regression of spleen, liver and lymph nodes. Complete recovery took much longer but the bone marrow was clear in 2 cases who came for follow up.

DISCUSSION

Fourteen cases of visceral leishmaniasis, nine from a hitherto unreported focus in Azad Kashmir, are presented. The disease present in children less than 8 years of age contrary to the classical indian Kala Azar which is supposed to be a disease of adulthood.
The diagnosis in all cases was made by the identification of L.D. bodies in the bone marrow specimen, although the reported incidence of marrow positivity ranges from 54%-86% in various studies[1]. The cases responded to treatment with sodium stibogluconate but this drug is not easily available in Pakistan in which case these cases can be treated with oral allopurinol in doses of 20-30 mg/kg/day (in 3 divided doses) for 8-12 weeks. [1] In patients failing to respond to both drugs combined therapy with both drugs may be tried. Spraying insecticides to eliminate the sand fly, early detection and treatment of cases helps to control and eradicate the disease.[1]

CONCLUSIONS

1. A new focus of visceral leishmaniasis exists in Azad Kashmir.
2. The disease mainly affects children below 5 years of age.
3. Bone marrow examination is the most reliable and simple means of diagnosing visceral leishmaniasis in Pakistan.
4. Sodium stibogluconate and ailopurinol alongwith the supportive treatment is the most useful method of management.
5. A high index of suspicion must be kept in mind for all cases coming from Azad Kashmir and presenting with requisite clinical picture.

ADDENDUM

An adult cases of visceral leishmaniasis hailing from village Gliazi district Rawalpindi has been diagnosed since the preparation of this manuscript.

REFERENCES

1. The Leishmaniasis. WHO Tech. Rep. Ser., 1984; 701.
2. Thakur, C.P. Epidemiological, clinical and therapeutic fea azar (including post kala azar dermal leishmanoid). Trans, 1984; 78: 391.

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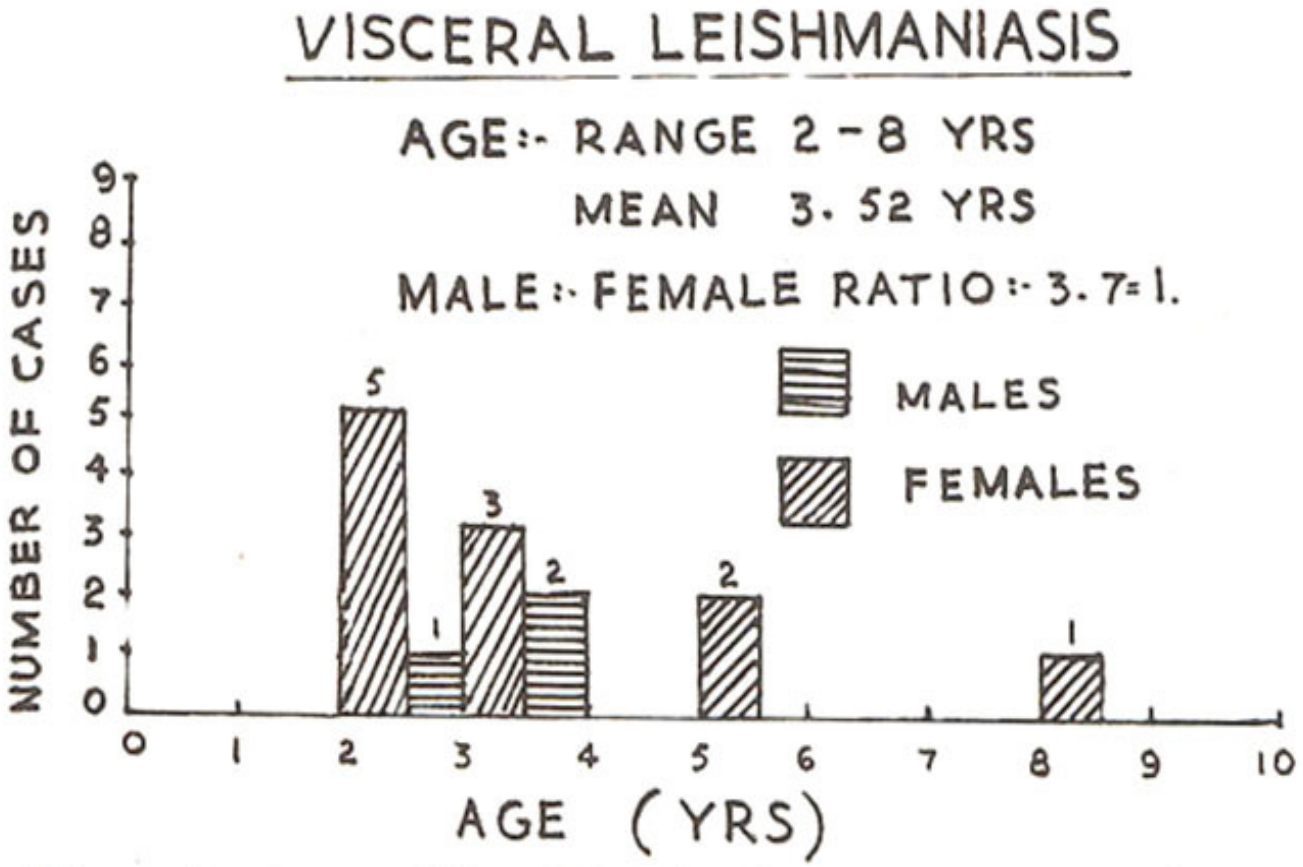

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