

RELAPSING FEVER: A CLINICAL STUDY OF 95 CASES
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ABSTRACT

A prospective study was done on 95 Relapsing Fever patients admitted to Jimma Hospital from April 9, 1991 to September 11, 1991. The average duration of symptoms before seeking medical advice was 5.2 days. The mean age was 24.88. About half of them came from a military camp and a prison. The clinical features of the disease were: fever (100%), headache (81.1%), myalgia (60%), epistaxis (16.8%), abdominal pain (20%), diarrhoea (13.7%), jaundice (18.95%), subconjunctival haemorrhage (6.3%) and petechial rashes (8.4%). Reaction occurred among 56.3%. The average on set of reaction after treatment was 114 minutes. The Case of Fatality Rate was 5.3% and causes of death were cardiac, hepatic and renal failure.

INTRODUCTION

Relapsing Fever is an acute febrile illness that causes epidemics. Bryceson et al., described evidence for seven major epidemics of louse borne Relapsing Fever between 1910 and 1945 in North Africa, Central Africa, Eastern Europe and USSR, which infected 15 million people and resulting in 5 million deaths (1). Though Ethiopia is an endemic focus for Relapsing Fever, the incidence is not well known (6). Next to malaria Relapsing Fever is the commonest cause of epidemic of acute febrile illness. Between mid 1984 and 1985, it was estimated that there were at

least 8 to 10,000 cases. Incidence rate, according to this report ranges from as low as 1 per 100,000 in Gojam to as high as 18.4 per 100,000 in Sidamo. No community-based study has been done to verify these .

There are few studies that have been done on Relapsing Fever in Jimma (4). Relapsing Fever is routinely reported by Jimma Hospital to Regional Health Department. The number of cases reported yearly range from four to fourteen during 1986 and 1989 (fig. 1). In 1991, the number of patients admitted to Jimma Hospital is greater than the previous years.

This study is intended to describe the clinical features and treatment results of Relapsing Fever cases admitted to Jimma Hospital from April 9, 1991 to September 11, 1991.

MATERIALS AND METHODS

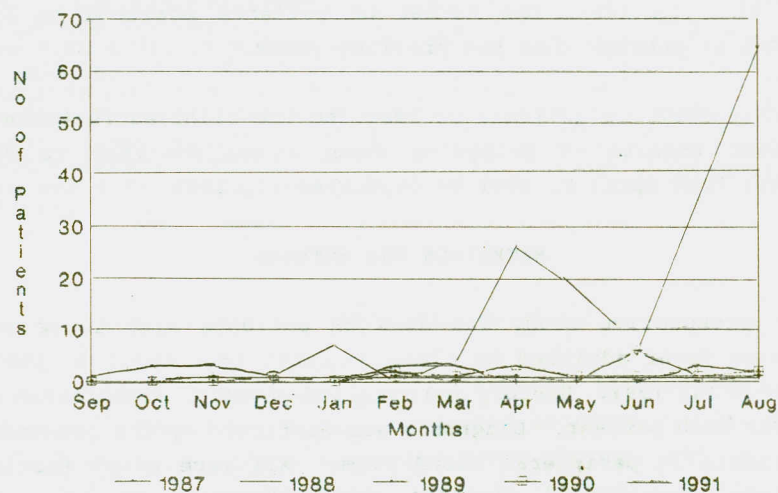
A prospective study was done on patients with louse borne Relapsing Fever admitted to Jimma Hospital from April 9, 1991 to September 11, 1991. History and detailed physical examination were done for each patient. Diagnosis was confirmed by the presence of spirochaete in peripheral blood film. All were given fortified procaine penicillin 400,000 intramuscular, shortly after admission, and followed for the next three days with tetracycline, two grams daily in four divided doses. Temperature, pulse rate and blood pressure were checked at frequent intervals, and daily records of common physical signs were kept for the duration of hospital stay. A reaction was entertained when temperature and pulse-rate rise and blood pressure decrease from the base line. Fifty-four patients were, however, excluded because of incomplete data. Hospital records for the last five years were also reviewed (see the monthly distribution of cases).

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RESULTS

The distribution of Relapsing Fever cases over the months from 1987 to 1991 is shown in the figure below.

Distribution of patients with relapsing fever according to months of diagnosis



The highest number was recorded in August 1991. The total number of cases reported during 1987 and 1990 was 39. The distribution of patients according to age is shown in Table 1. The male to female ratio was 4.94:1 (79 males and 16 females). Their ages ranged from 13 to 55 and the mean age being 24.9. Thirty-four percent of these patients came from a nearby military training camp, 18% of these were from a prison, and the rest from Jimma Town.

TABLE 1

Age Distribution of Patients with Relapsing Fever in Jimma Hospital, 1991.

Ages	Number	%
13 - 18	22	23.16
19 - 24	28	29.47
25 - 30	31	32.63
32 - 36	7	7.37
37 - 42	5	5.26
43 - 48	1	1.05
49 +	1	1.05
Total	95	100.00

Clinical features symptoms are shown in Table 2. The average duration of symptoms before seeking medical advice was 5.12 days which ranges from 1 to 15 days. Fever was universal and high grade, which was associated with chills (66.3%), arthralgia (63.2%) and myalgia (60%). Many patients 81.1% had headache, cough (25.3%), chest pain (6.3%) and abdominal pain (20%). Epistax

occurred among the 16.5%. Gastrointestinal symptoms like nausea (16.9%), vomiting (27.4%) and diarrhoea (13.7%) were not uncommon. Urinary complaints like frequency and urgency were seen in 13.7%.

TABLE 2

Distribution of Patients with Relapsing Fever
According to symptoms, Jimma Hospital, 1991.

Symptoms	Number	Percent
Fever	95	100.00
Head ache	77	81.05
Chills	63	66.32
Arthralgia	60	63.16
Myalgia	57	60.00
Vomiting	26	27.37
Cough	24	25.26
Abdominal pain	19	20.00
Nausea	16	16.84
Epis taxis	16	16.84
Diarrhoea	13	13.68
Frequency, urgency	13	13.68
Neck stiffness	7	7.37
Chest pain	6	6.32

The physical examination findings are shown in Table 3. Most patients were acutely sick looking and weak. Jaundice was seen in 19%, subconjunctival haemorrhage (6.3%), Hepatomegaly (58%), splenomegaly (41.1%), petechial rashes (8.4%), neck stiffness (7.4%) and altered state of consciousness (4.2%). Associated bacterial meningitis was seen in three patients.

TABLE 3

Distribution of Patients with Relapsing Fever
According to Signs, Jimma Hospital, 1991.

Signs	Number	Percent
Hepatomegaly	55	57.90
Splenomegaly	39	41.05
Jaundice	18	18.95
Petechial rash	8	8.42
Neck stiffness	7	7.37
Sub conjunctival haem	6	6.32
Altered state of consciousness	4	4.21

Onset of reaction after treatment is shown in Table 4. Reaction characterized by high grade fever, chills and hypotension was documented in 56.8%. The average onset of reaction in minutes was 114.44 that ranges from 20 minutes to 10 hours. 52.6% developed reaction within three hours of antibiotic administration.

TABLE 4

Distribution of Patients According to Onset of Reaction After Treatment for Relapsing Fever, Jimma Hospital, 1991.

Time (hours)	Number	Percent
0 - 1	19	35.19
1 - 2	17	31.38
2 - 3	14	25.93
3 - 4	2	3.70
4+	2	3.70
Total	54	100.00

Five patients died, yielding a mortality rate of 5.26%. Three patients died within the first 72 hours after the admission. The causes of death were found to be of cardiac, hepatic and renal failure.

The complications seen were: hepatic failure in four patients renal failure in two patients, cardiac failure in four patients. ECG was done in three patients suggestive of myocardial damage, and pneumonia in one patient. The average hospital stay was five days that ranges from one to eighteen days.

DISCUSSION

Although Relapsing Fever is a common cause of epidemics of acute febrile illness, clinical diagnosis is very difficult in our setup and various diseases like malaria, meningitis, viral hepatitis, typhoid, typhus and pneumonia could be confused. This is more so because multiple infections with one or more is common.

Relapsing Fever used to occur constantly in Jimma prison. The epidemic of Relapsing Fever that occurred in 1991 began in April concurrent with the time when soldiers fled from war front to Jimma who were kept in camps.

The clinical picture in this study is similar to Bryceson (1). Fever occurred in 100% similar to that reported by Salih et al (5) and Bryceson (1) which were 96% and 97% respectively. Abdominal pain was reported as prominent symptom by Bryceson and Salih, but represented only in 20% in our study. Diarrhoea occurred in 13.7%. The causes are unexplained but some authors believe it to be due to concomitant typhoid or dysentery (5).

Bleeding is a common and occasionally a severe complication of Relapsing Fever, and descriptions of it have been reported from Ethiopia by Dennis et al. as high as 80% (2). These are manifested by epistaxis and petechia. In this study epistaxis occurred in 16.7% and petechia in 8.4%. These are quite low, as compared to others, both here and else where (2,5).

Neck stiffness was seen in 7.4% of the patients. Four patients were thought to have concomitant bacterial meningitis and had lumbar puncture. Three CSF analysis revealed gram negative intracellular diplococci. According to Salih et al.(5) and neck stiffness was documented 47%. Some workers found meningitic signs rarely while Bryceson et al. (1) reported neck stiffness alone in 39% of their patients.

Although tetracyclines is considered to be the drug of choice in the treatment of louse borne Relapsing Fever, it provokes typical Jarish-Herxheimer reaction in most cases (1,2,3,4). Knaack et al (3) observed reactions in all patients treated with tetracyclines after 30 - 75 minutes with a mean of 60 minutes. Similarly reaction was observed in 8.3%, within 2 1/2 hrs after procaine penicillin injection. In our study a reaction developed in 56.8%, with the average onset of 114.44 minutes. There were no any relapses. The mortality rate in this study was 5.3% which is similar to that of Salih et al, 5.5% (5).

CONCLUSION

From our study, no clinical, sign or symptom was specific for definitive diagnosis as it can only be made after demonstrating borrelia species in blood smear.

The treatment with penicillin and tetracyclines was safe and effective. We suggest starting treatment with penicillin 400,000 IV. intra muscular after opening an intravenous line with normal saline or Ringer lactate and expect reaction. Tetracyclines 500 mg four times daily should be continued for the next three days to prevent relapse.

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**ATTITUDE OF PREGNANT MOTHERS TOWARDS BEING ATTENDED BY
HEALTH WORKERS DURING DELIVERY IN SEKKA CHEKORSA,
ILLUBABOR ADMINISTRATIVE REGION**

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ABSTRACT

In August 1990, a questionnaire survey was carried out in Sekka Chekorsa Awraja, Illubabor Administrative Region, to investigate the utilization of antenatal and delivery services. One hundred and seventy pregnant women who attended antenatal care (ANC) during the month of August 1990 were interviewed for their opinions on utilization of health attendants. Out of 170 women, 129 (76%) were aware of ANC of whom 109 (84.5%) attended in one or more of previous pregnancies. Only 6 (4.4%) out of 137 last deliveries used trained attendants. The most important obstacles for utilization of trained attendants were found to be lack of trained persons in the vicinity and long distance of the available health facilities in the communities. Recommendations are suggested to tackle these problems.

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