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Cutaneous leishmaniasis in Libya: epidemiological survey in Al-Badarna

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Abstract. One hundred fifty-one cutaneous leishmaniasis (CL) cases were recorded during the period from October 1991 to September 1992 from Al-Badarna in Jabal Nafusa, an endemic area of CL in Libya. The infection was clinically suspected and confirmed by the demonstration of *Leishmania* on smears from lesion biopsies. The age distribution of cases showed that the age group 1-10 yrs was the most affected, indicating that the endemic status of CL in Al-Badarna is not a new occurrence.

Key words: cutaneous leishmaniasis, Libya.

Cutaneous leishmaniasis (CL) is one widespread in endemo-epidemic form in west and south-west of Tripoli, covering the areas from Jabal Nafusa to Owazen and in the Mediterranean littoral to Ras-Ijder, in the Tunisian border. Historical records of CL in Libya date back to the 2nd decade of this century (Onorato, 1931). Kadiki and Ashraf (1971) recorded 40 cases in Nalut, while Ashford *et al.* (1976) recorded an increasing number of cases among settlers in new agricultural projects in Jabal Nafusa Plateau, and in residents in Jabal Nafusa (Western mountain).

Al-Badarna, a village of 1,356 of population, lies on the northern edge of Jabal Nafusa at an altitude of 500 m a.s.l. (Fig. 1). The survey was carried out during the period from October 1991 to March 1992, with a 3-day visit per month. Records of CL cases between April to September 1992 were obtained from the Division of Primary Health Care, Ministry of Health. Clinically suspected cases were gathered at the health centre. Bioptic samples taken from the edge of suspected lesion were smeared on slides and stained by Giemsa stain. Parasites were demonstrated microscopically.

One hundred fifty-one cases of CL were recorded, of which 93 (61.6%) were males. The sex ratio (M:F) was 1.6:1.0. The monthly record of cases (Fig. 2) indicates that by October 1991 the disease was already at, or just past, the peak of incidence (45 cases, 29.8%). The number of cases then declined and dropped in January 1992. The age distribution of CL cases is shown in Table 1. Although infections were detected in all the age groups surveyed, the highest number of cases (70 cases, 46.4%) was found in the age group 1-10 yrs, followed by the age groups 11-20 yrs and 21-30 yrs. In most patients lesions were multiple and of ulcerative type, with a diameter of 15-55 mm and irregular edges. In both sexes the lesions were distributed on upper and lower limbs, nose, cheeks, forehead, chin and neck while in males alone they were found also in other sites of the body. This clnical pattern is typical of infections due to *Leishmania maior*, agent of zoonotic CL. Only the biochemical characterization

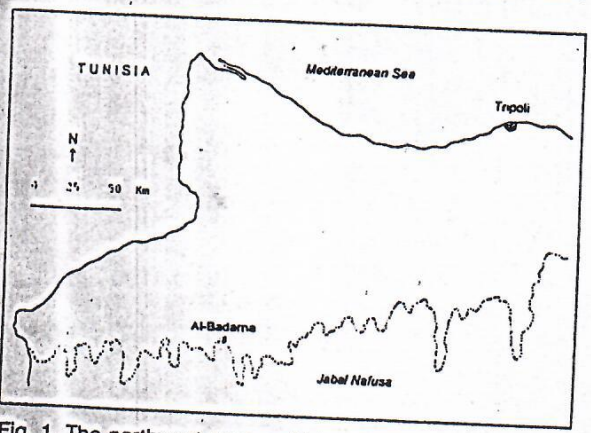

Fig. 1. The northwest corner of Libya, showing the location of Al-Badarna on Jabal Nafusa (Western mountain).

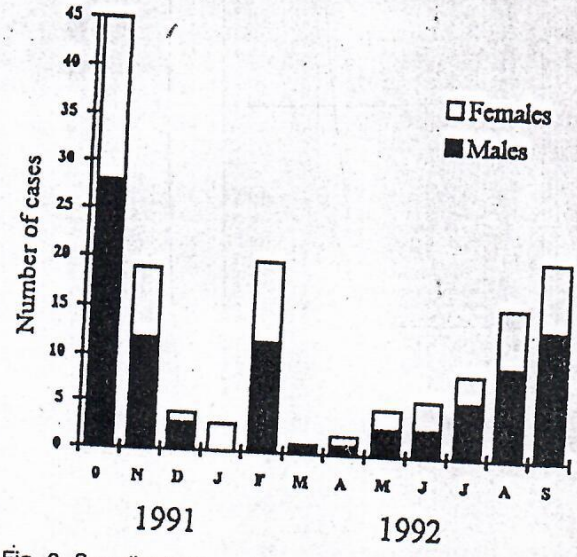

Fig. 2. Sex distribution of cases according to the month when cutaneous leishmaniasis has appeared (October 1991-September 1992).

Table 1. Sex and age-groups distribution of CL cases.

Age (years)	Number of cases		
	Males	Females	Total (%)
<1	1	2	3 (2.0)
1 - 10	39	31	70 (46.4)
11 - 20	20	11	31 (20.5)
21 - 30	15	7	22 (14.6)
31 - 40	7	2	9 (6.0)
41 - 50	3	1	4 (2.6)
51 - 60	4	3	7 (1.3)
61 - 70	2	0	2 (1.3)
71 - 80	2	1	3 (2.0)
Total	93	58	151 (100)

of parasites, however, may elucidate the aetiology of CL in Al-Badarna.

CL is considered an endemic diseases in Jabal Nafusa (Ashford *et al.*, 1976). Prevalence data from our survey showed that young age groups were more affected than old age goups, which would indicate that this endemic status is not a new occurrence in Al-Badarna: elder individuals may have been infected in the past and developed immunity against re-infection. Younger age groups are therefore at greatest risk of the disease.

In young age goups both sexes were equally infected (Table 1), as already observed in other CL foci (Mengistu *et al.*, 1992). On the other hand, in older age groups males were more infected than females. This may indicate that adult males are more exposed to the infection, and/or females are not seeking medical advice.

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