Summary

In two areas in the province of Khorassan, North East of Iran studies were carried out to determine the reservoir of cutaneous leishmaniasis. In Meshed where the urban type of the disease is endemic 5 o/o of dogs were found with leishmanial lesions of skin without visceral involvment but no infection was found in rodents.

In Lotfabad where the rural type is endemic, 44 o/o of *Rhombomys* and less than 1 o/o of *Meriones lybicus* examined were found infected but no infection was found in dogs.

Acknowledgements

We have to thank Prof. Mofidi, Director of the Institute of Public Health Research, Prof. Faghih, and Prof. Mesghali for their kind help in planning these studies. Also thanks are due to Mr. Shegerfkar and other staff of Meshed Research Station for their help in collection of animals and examination of smears.

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EPIDEMIOLOGY OF CUTANEOUS LEISHMANIASIS IN IRAN (*)

Part II. Natural Leptomonad Infection of Sandflies in the Meshed and Lotfabad Areas (**)

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One of the main aims in the studies of cutaneous leishmaniasis in Khorassan was the determination of vectors in different foci of the disease. The urban type of oriental sore is endemic in the city of Meshed and its suburbs, whereas the rural type is found around Lotfabad. The present paper shows the results of studies done on natural leptomonad infection of sandflies in these two localities in 1964 and 1965.

(*) Séance du 5 juillet 1967.

(**) These studies were supported in part by the Institute of Public Health Research, Tehran University and funds of the Ministry of Health and Plan Organization for Project N° 631101.

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The city of Meshed is situated at long. 59° 35′ E. and lat. 36° 16′ N. with an altitude of 1.010 m. Its climate is like other mountainous areas of Northern Iran, that is with cold winters and warm summers. Annual precipitation is between 200 and 600 mm.

Lotfabad is situated on a plain north of the Elburz range close to Russian Turkemenistan being situated at long. 59° 12′ E. and lat. 37° 33′ N. The climate is like Russian Turkemenistan. The several mountain ranges between Meshed and Lotfabad contribute to the widely differing ecological conditions found in the two localities.

Methods: In Meshed, sandflies were collected with an aspirator from indoor resting places but in Lotfabad they were caught with a large cage (3 × 2 × 2 meters) which was put over the openings of rodent burrows 30 minutes before sunset.

The cage consisted of a frame covered with mosquito net but the bottom part remained uncovered. Inside the cage a collector caught with an aspirator the sandflies coming out in the open when there was no wind. In this way it was possible to collect about 500 sandflies a night. The insects were blown into holding tubes (WHO Test Kit for mosquitoes) with their tops covered by a fine mesh to keep the sandflies within.

They were transferred to the Meshed laboratory and dissected 24-96 hours after capture. Before dissection they were anæsthetized with chloroform, placed on a drop of saline and dissected with two fine needles under a stereoscopic microscope. After the insect was decapitated, the last two segments were carefully incised and gut, malpighian tubules and lubricating glands were pulled out.

The head was fixed by a cover-slip and the remaining parts of the abdomen were removed and after this the slide was examined under a microscope (high power). Gut, œsophagus and head were examined for the presence of leptomonads. The Christophers stages of ova were identified, the lubricating glands were examined in order to determine parity or nulliparity and finally, to determine the species, the spermathecæ were checked after a slight pressure on the cover slip.

Results: (1). 1,308 *Phlebotomus papatasi*, 733 *Ph. sergenti*, and 194 *Ph. caucasicus* collected from 5 different localities around Meshed were dissected in 1964 and 1965. The result of the dissections is shown in table I and it is of interest that only *Ph. sergenti* shows

natural leptomonad infection and most of the examined sandflies had leptomonads in the œsophagus and head. Naturally the infection rate of sandflies was higher in houses where infected dogs were present. In addition to the three species mentioned 9 *Ph. ansarii*, 1 *Ph. chinensis*, 1 *Ph. alexandri*, 4 *Sergentomyia sumbarica* and 1 *Ser. clydei* were dissected and all were found to be negative for leptomonads.

TABLE I

Natural Leptomonad Infection Among Indoor Collected Sandflies in the Meshed Area. June 1964 to september 1965.

Species	N° of sandflies dissected	Age group			N° of Sandflies with leptomonads			
		N	P	?	T	G	O	H
Ph. papatasi . . .	1308	362	302	644	—	—	—	—
Ph. sergenti . . .	733	247	163	318	11	11	10	8
Ph. caucasicus . . .	194	73	84	37	—	—	—	—

T = Total O = Oesophagus ; G = gut N = Nulliparous ; H = Head
P = Parous

TABLE II

Natural Leptomonad Infection among Sandflies Collected from Rodent Burrows in Lotfabad area. August to september 1965.

Species	No. of Sandflies dissected	Age group			No. of Sandflies with leptomonads			
		N.	P.	?	T.	G.	O.	M.
Ph. papatasi . . .	103	16	67	20	6	6	—	—
Ph. mongolensis . .	73	7	46	20	9	9	3	1
Ph. alexandri . . .	2	—	2	—	—	—	—	—
Ser. clydei	14	2	11	1	1	1	—	—
Ser. sintoni	19	1	3	15	—	—	—	—

T. = Total ; O. = Œsophagus ; G = Gut ; N. = Nulliparous ; H = Head ;
P. = Parous

(2). In Lotfabad collection was carried out around several colonies of *Rhombomys opimus* between the villages Hessar and Shilgan where infected rodents were present. 103 collected *Ph. papatasi*, 72 *Ph. mongolensis*, 2 *Ph. alexandri*, 14 *Serg. clydei* and 19 *Serg. sintoni* were dissected. The result of these dissections (table II) shows that only *Ph. papatasi*, *Ph. mongolensis* and *Serg. clydei* were infected. In *Ph. mongolensis* leptomonads were observed in the heads whereas in the other species the parasites were only in the guts. Unfortunately, due to technical difficulties, we were unable to inject the leptomonads int laboratory animals to determine their pathogenicity; we hope, however, to continue this study and publish further observations.

SUMMARY

Natural leptomonad infection of sandflies is investigated in two different foci of oriental sore in the province of Khorassan (north east Iran). In Meshed area (urban type) only *Ph. sergenti* was found infected but in Lotfabad area, on the Russian frontier, *Ph. papatasi*, *Ph. mongolensis*, and *Serg. clydei* were infected by leptomonad up to now.

ACKNOWLEDGEMENTS

We wish to thank Dr. CH. MOFIDI, Dean of School of Public Health and Director of the Institute of Public Health Research for his fruitful interest and guidance and also the members of the Medical Research station of Meshed.

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UN CAS DE PALUDISME VISCÉRAL ÉVOLUTIF MORTEL, AVEC ACCOUCHEMENT PRÉMATURÉ

Par FRANÇOIS BLANC, YVETTE NOSNY, PAULETTE FARISSE et BERNARD BLANC (*)

Mme B... Laure-Florence, 40 ans, métisse d'origine guyanaise, épouse d'un sous-officier du Service de Santé des Troupes de Marine en service à Bangui est arrivée en France le 14 avril après un séjour de deux ans en R. C. A.

Enceinte de huit mois, elle s'est présentée à la consultation d'une clinique obstétricale privée le 27 avril. L'évolution de la grossesse était d'apparence normale mais le mauvais état général, les signes cliniques importants d'anémie commandèrent l'hospitalisation immédiate.

A l'examen, aucun autre signe ou symptôme ne paraît avoir été retenu. L'apyrexie était complète. Le laboratoire confirma l'anémie d'un taux extrêmement élevé : 1.500.000 G. R., 5.000 G. B., 67 P. N., 1 P. B., 28 L., 4 M. Absence d'hématozoaire ; par ailleurs, S. G. O. T. 62 unités, S. G. P. T. 85 unités ; dans les urines : albumine 0,50, pigments biliaires en quantité importante, pas d'hémoglobine, pas de sang, pas de cylindres.

Vingt-quatre heures après l'hospitalisation, accouchement prématuré d'un enfant mort, pesant 900 g. Dans les suites immédiates s'installe un état fébrile, 40º, avec frissonnements, transpiration profuse. Une transfusion sanguine de 400 cc est installée. L'état général d'améliore discrètement mais, très vite, la malade devient somnolente, obnubilée, sans présenter toutefois les signes d'un coma vrai. Les symptomes s'aggravent encore : apparaissent 2 ou 3 crises hypertoniques généralisées avec respiration stertoreuse, révulsion des yeux. Les crises qui durent une ou deux

(*) Séance du 13 décembre 1967.