

FIG. 1. Paranasal Goundou, Cote d'Ivoire, 1916 (Coll. IMTSSA, Le Pharo, Marseille, France).

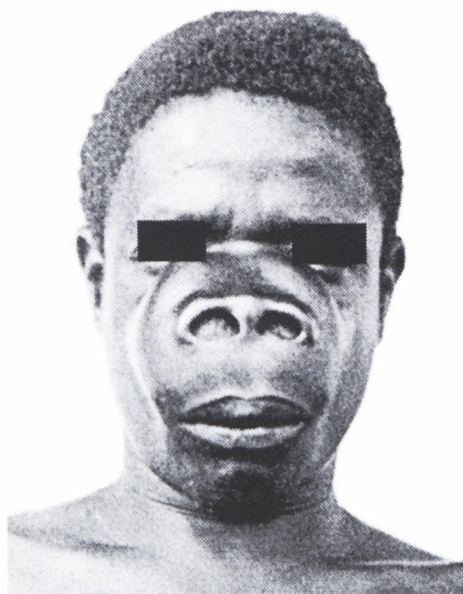


FIG. 2. Diffuse Goundou, Cote d'Ivoire, 1917 (Coll. IMTSSA, Le Pharo, Marseille, France).

and, to our knowledge, none of the 137 cases reported in the literature notably by P. Botreau-Roussel^(2,3) was associated with gangosa.

Destruction of the nasal region in Dr. Mohamed's patient probably led to skin folding or may have been accompanied by a mild periosteal reaction, but there are no grounds for diagnosis of goundou syndrome.

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Study of Pattern of Ocular Changes in Different Types of Leprosy Patients

TO THE EDITOR:

Involvement of eyes is one of the most serious complications that can occur in leprosy, and, if neglected or left untreated, could eventually cause blindness. In a re-

cent multi-center study between 4% to 7% of the leprosy patients were found to be blind and between 6% and 50% had severe visual impairment^(1,2).

The present study was carried out on a random sample of 100 leprosy patients

TABLE 1. Age and sex distribution of leprosy patients.

Age range (years)	Males (%)	Females (%)	Total
5-15	4 (5.48)	-	4
16-25	23 (35.51)	2 (7.41)	25
26-35	20 (27.40)	7 (25.92)	27
36-45	11 (15.07)	9 (33.33)	20
46-55	8 (10.96)	4 (14.82)	12
56-70	7 (9.58)	5 (18.52)	12
Total	73	27	100

seeking care for leprosy, not just for eye problems. These patients were seen at the general outpatient department for skin at the Dayanand Medical College and Hospital located at Ludhiana, India.

Each patient was examined carefully. The age, gender, and type of leprosy (Ridley-Jopling classification), duration of the disease, its treatment and the regularity of treatment were noted. Slit-skin smears were done and the disease confirmed histopathologically. The eyes were examined and a slit-lamp examination carried out.

The ages and genders of these 100 leprosy patients are given in Table 1. The mean age was 36 ± 14 years with a range of 5 to 70 years. Over half the patients were in the 16 to 35 year old range. Seventy-three of the patients were male.

The overall eye involvement among these 100 patients was 53%. Eye involvement was most common among LL patients (90%), followed by BB patients (53%), BL

(47%), and BT (28%). We saw no TT patients in this group. Eye involvement was more common among patients who had had the disease for more than five years (90%) than among those who had had the disease for less than five years (38%).

The types of ocular lesions seen in these patients according to disease type are given in Table 2. Madarosis was seen in 24% of these patients, followed by conjunctivitis (16%), corneal opacity (14%), decreased corneal sensation (13%), lagophthalmos (12%), and lesions of the iris and ciliary body (10%). Two patients, one BB and one BL, had choroiditis. Choroiditis was not an incidental finding in our patients but was due to leprosy because none had tuberculosis, diabetes, mellitus, HIV, sarcoidosis, syphilis, etc., which are common causes of choroiditis in India.

Three cases of cataract were of the senile-type and the cataract started in the senile cataract age group in all of these instances.

In general our observations in these 100 leprosy patients do not differ from those of other authors (1, 2, 3, 4, 5, 6, 7, 8). It seems clear that if blindness is to be prevented in leprosy patients, the eyes of all leprosy patients should be examined at regular intervals. Merely referring leprosy patients for eye examinations after eye complications become evident is not sufficient. The aim should be to detect the ocular complications of leprosy before the leprosy patient becomes an eye patient.

TABLE 2. Type of ocular lesions in different types of leprosy patients.

Eye lesion	Type of leprosy					Total	%
	TT	BT	BB	BL	LL		
Madarosis	-	3	10	1	10	24	24
Trichiasis	-	-	1	1	1	3	3
Ectropion	-	-	-	1	1	2	2
Entropion	-	-	-	1	-	1	1
Dacryocystitis	-	-	-	-	-	-	-
Lagophthalmos	-	2	4	4	2	12	12
Conjunctivitis	-	3	6	2	5	16	16
Episcleritis	-	-	-	-	-	-	-
Decreased corneal sensation	-	1	6	4	2	13	13
Corneal opacity	-	3	2	4	5	14	14
Iris and ciliary body	-	-	2	3	5	10	10
Cataract	-	-	1	1	1	3	3
Choroiditis	-	-	1	1	-	2	2

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Serum Monocyte Chemoattractant Protein-1 is Elevated in Lepromatous Leprosy Patients with High Bacterial Indices

TO THE EDITOR:

The immunologic basis of the polar types of leprosy is explained by the differences of cytokine expressions in the lesions. Increased interferon (IFN)- γ and interleukin (IL)-2 mRNAs were reported in tuberculoid leprosy lesions, and IL-4 and IL-10 mRNAs are known to be elevated in lepromatous leprosy lesions⁽¹⁾. So far, serum levels of tumor necrosis factor (TNF)- α , IL-2 receptor, IL-10, IL-1 β and IL-1 receptor antagonist have been reported to be elevated in lepromatous leprosy^(2,5,6). Considering that the skin infiltrating cells of lepromatous leprosy are mainly composed of macrophages, chemokines seem to be responsible for the recruitment of these cells.

Therefore, we tested for several chemo-

kines namely monocyte chemoattractant protein (MCP)-1, macrophage-derived chemokine (MDC), thymus and activation-regulated chemokine (TARC) and eotaxin, in addition to IL-12 and IL-10. ELISA assay systems were used for the detection of TARC (TECHNE Co. Minneapolis, Minnesota, U.S.A.) and the others (R&D Systems Inc., Minneapolis, Minnesota, U.S.A.). Twenty-eight leprosy patients (mean age: 50.6 years, M:F = 25:3) and fourteen healthy controls (mean age: 42.8 years M:F = 1:13) were studied in Korea. The leprosy patients were all of the polar lepromatous (LL) type⁽⁸⁾ with positive bacterial index (BI). The patients were composed of 13 (BI 1+), 6 (BI 2+), 7 (BI 3+) and 2 (BI 4+) patients. The higher BI numbers represent greater bacteria numbers (1+ = 1–10