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Therapy of Leprosy With Sulfonamides

Emphasis on the Use of Weekly Doses

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Long-acting sulfonamides are effective in the treatment of leprosy, but have not been shown to be superior to the sulfones. Their use in leprosy has been relatively recent and the number of cases compared to those treated with sulfones is small.

We have been using several sulfonamides in small groups of patients (Table 1). We observed that all are effective and we cannot state that any is superior or inferior to the sulfones. Clinically the improvement consists in disappearance of the papules, flattening of the tubercles and nodules, and reduction of the lesions on the mucous membranes. The improvement is more rapid during the first four and five months and then slows down. The more recent the lesions, the more intense and rapid is the recovery.

The morphology of the bacteria undergoes radical alterations during the first year of treatment, although their number does not change. By the fourth month of therapy granular forms of the germ predominate over the solid ones. All lesions present regressive histologic changes by the end of the treatment, when most of the bacteria show granular forms.

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TABLE 1. *Summary of drugs and dosage in comparison of action of sulfonamides.*

Drug	Dose	Route of administration	Number of patients	Duration of treatment in months
Sulfadimethoxine	1.5 gm./day	Oral	9	6
Sulfadimethoxine + DDS + DPT	0.5 + 0.5 + 100 mgm./day	Oral	78	25
Sulfadimethoxine	1.5 gm./day	Oral	15	6
Sulfapyrazol	1.5 gm./day	Oral	24	12
RO-4-4393	1.0 to 2.8 gm./week	V.O.-I.V.	17	4–12
Rifomycin SV + DDS + Sulfadimethoxine	1.0 gm. in 250 ml. of saline + 100 mgm. + 500 mgm./day	I.V.-V.O.	4	12
2-Sulfanilamide 5-Methylpirimidine	1.5 to 3.0 gm./day	Oral	10	6
Sulfa-Alkylpyrimidine	Initial dose: 1.2 gm./day Maintenance dose: 0.2 gm.	Oral	5	12
Morphazinamide + Sulfone	2.0 + 0.1 gm./day	Oral	15	12
Sulfamethoxipyrazine	0.5 gm./day	Oral	11	4–12

In previous papers we reported the above mentioned results after daily use of the drugs, without periods of interruption. In the present paper we report the use of these drugs in weekly doses and compare the results so obtained with the previous experiments.

MATERIAL AND METHODS

Patients with lepromatous leprosy, not previously treated, were divided in four groups. The first group received 170 mgm. of sulfadoxine, the second 500 mgm. of sulfadoxine, the third 70 mgm. of DDS (diamino-diphenyl sulfone), and the fourth 200 mgm. of DDS, three times a day on one day in the week. Each group consisted of five patients. The experiment was double-blind and followed the protocol recommended by the WHO except for the biopsy index of Ridley.

DISCUSSION

Improvement occurred as under treatment with other drugs, mainly during the first four months. Once more it became evident that patients with recent evolutionary lesions responded to therapy more promptly then those with quiescent processes. Most of our patients presented lesions of recent onset and showed rapid improvement.

Erythema nodosum leprosum (ENL) was observed with the same frequency as in other modalities of treatment. It is our impression that ENL is not necessarily a consequence of the improvement, but rather the expression of an individual sensitivity to products of the bacteria and not to the drug.

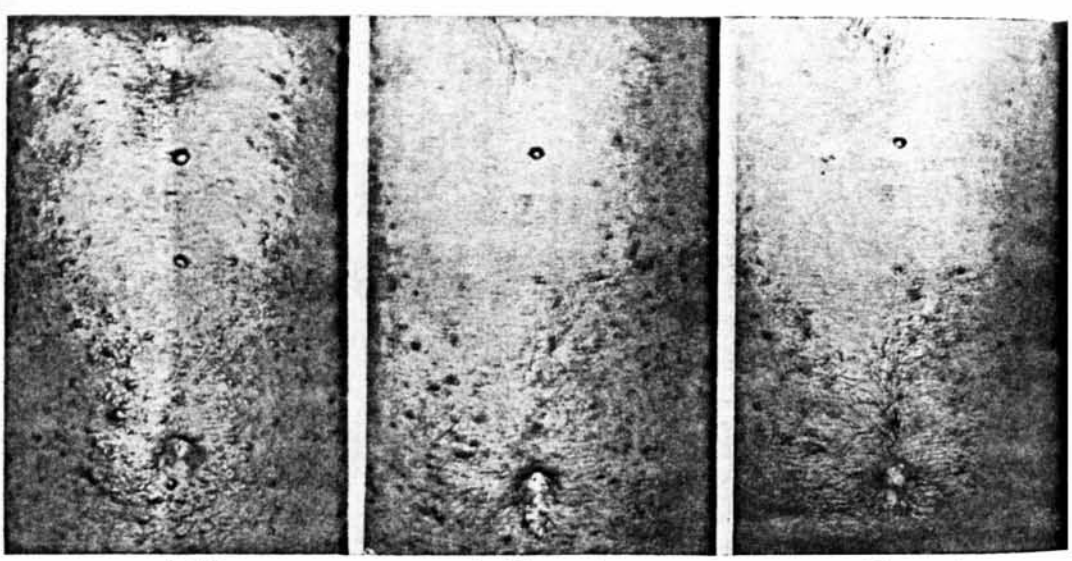
Bacteriologic indices remained elevated in the four groups, but the morphologic indices reflected the effectiveness of the drugs, showing an increase of the granular forms in all patients. Biopsy was performed to confirm the stage of the lesions, and their progress or regression. In the majority of patients, lesions which were active at the beginning of treatment presented regressive changes with granular bacilli by the end of it. Results are illustrated in Figs. 1, 2, 3, 4 and 5.

SUMMARY

The results do not permit any conclusion about the superiority of any of the drugs or dosage used.

All patients improved clinically and bacteriologically, and in the same manner as with other forms of treament hitherto considered effective against leprosy.

Recent lesions responded better to the treatment than old ones.



a. Initial b. 4th month c. 8th month

FIG. 1. Sulfadoxine, 1500 mgm/week.

Erythema nodosum phenomena occurred in the majority of patients, and do not suggest any sensitivity to the drugs.

The drugs were well tolerated.

Although the number of patients was small, it is our impression that the conclusions are valid, considering the great improvement observed in all patients.

Finally we conclude that the treatment of leprosy should be intermittent, and that the illness is progressive only during certain periods. When these periods cease, organic defenses take up the task of destroying the bacilli.

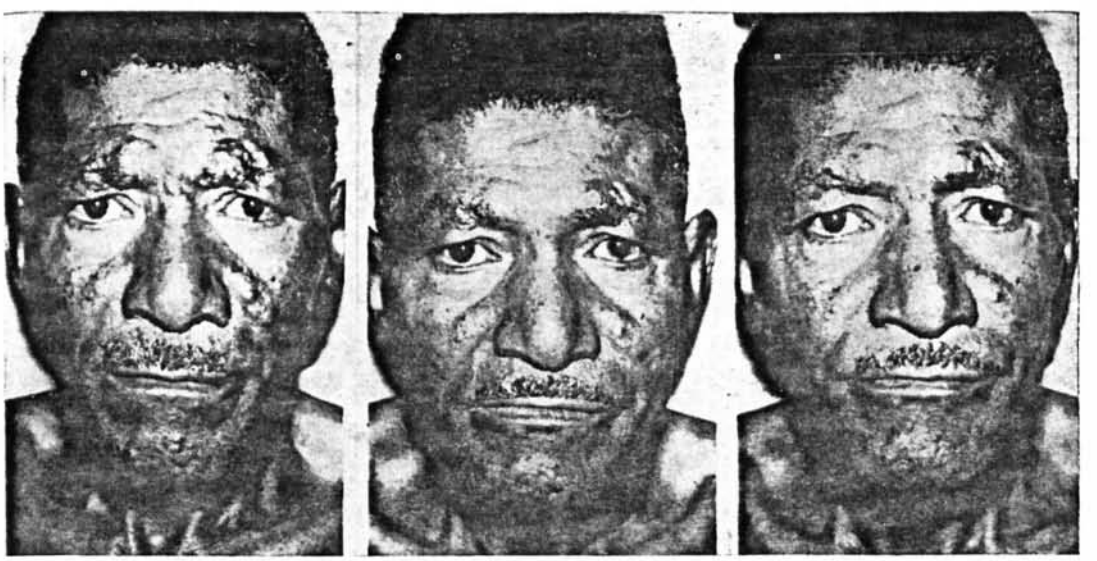


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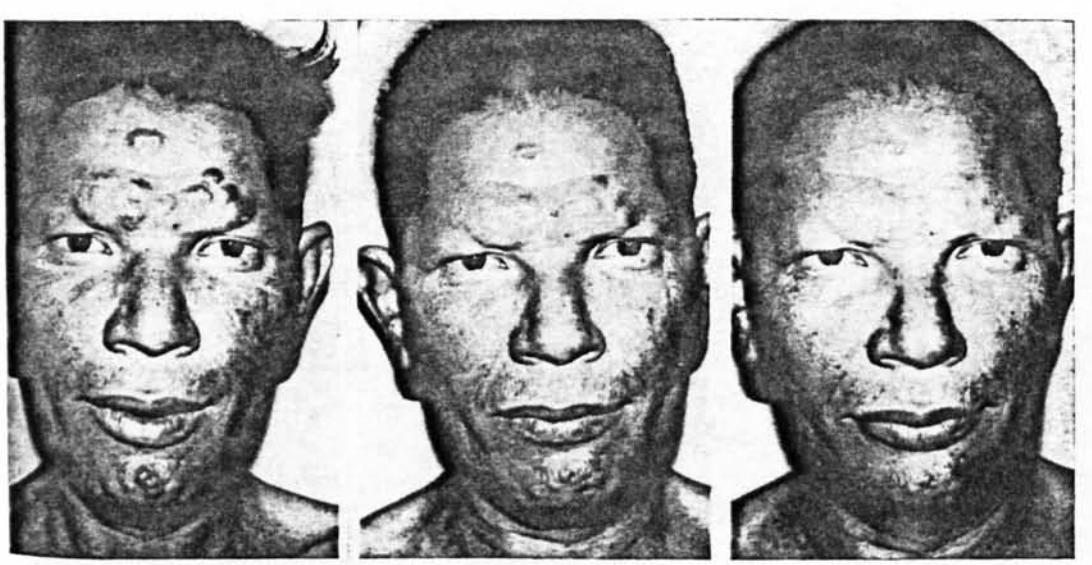
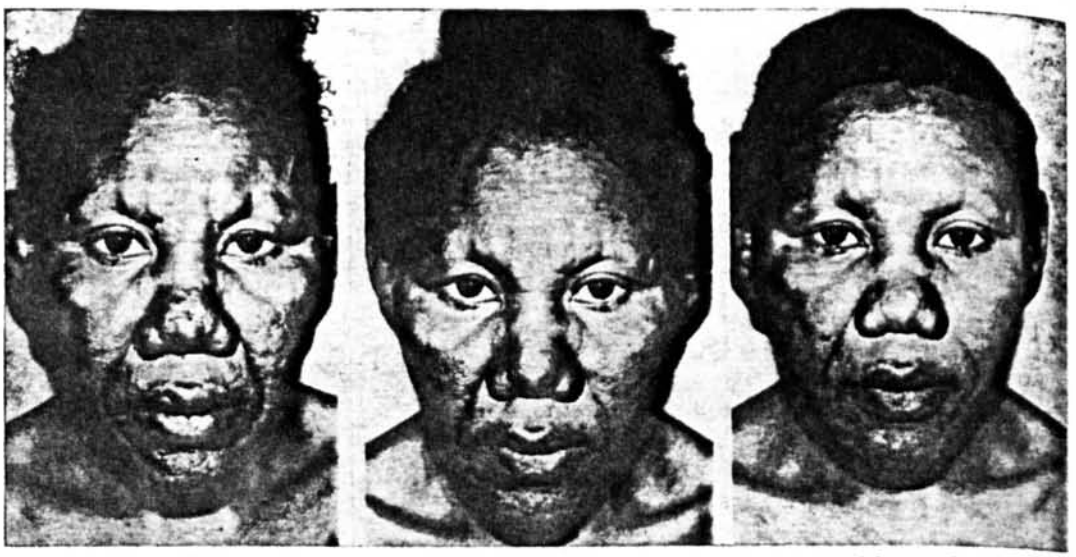
FIG. 2. Sulfadoxine, 510 mgm/week.



a. Initial b. 4th month c. 8th month

FIG. 3. DDS, 600 mgm/week.



a. Initial b. 4th month c. 8th month

FIG. 4. DDS, 210 mgm/week.

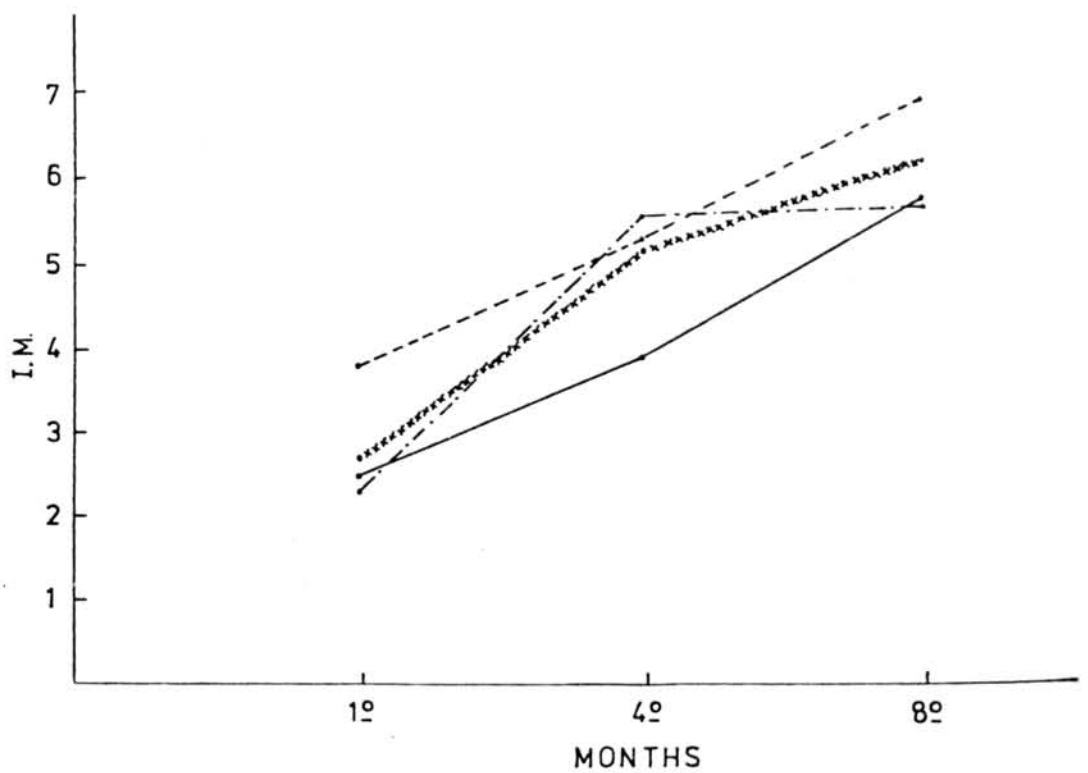


FIG. 5. Morphologic index in cases treated.

———Sulfadoxine-170 mgm.
x x x x xSulfadoxine-500 mgm.
– – – –DDS- 70 mgm.
–•–•–DDS-200 mgm.