

THE SUPPRESSIVE TREATMENT OF NATURALLY ACQUIRED MALARIA IN A RURAL VILLAGE WITH PYRIMETHAMINE (DARAPRIM)

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The village used in this experiment was Nuevo Vigia. It is a comparatively new village on the bank of Madden Lake, about 3 miles above the old village known as Vigia. A small stream, Quebrada Melgada, empties into Madden Lake after passing through the town. Before Madden Lake was formed it was a branch of the Pequeni that entered the Rio Chagres not very far above the site of Nuevo Vigia. The Trans-isthmian highway passed within two miles of the town and by automobile it is an hour's ride from Panama City to the village. The people who live around the Madden Lake used to cross the lake in their boats and unload at the Madden Dam where by bus transportation they sent their produce to the markets in either Panama or Colon.

Recently this area was made a military reservation, so the lake shore residents now use pack horses on trails to the nearest contact with the highway. A number of small villages are located on the lake above Nuevo Vigia so that many rural people pass through the place on the way to the Trans-isthmian highway. No form of antimalarial control was in use so that a favorable opportunity was provided to attempt suppression of malaria infection with pyrimethamine.

Suppressive treatment was started on Jan. 20, 1954 and ended May 19, 1954, a period of 18 weeks. Weekly doses of 25 milligrams were given to all adults and to all children above 2 years of age. Half this dose was given to children under 2 years of age. Our field book shows the names of 376 people, but only 134 of them were regular in their attendance on treatment days.

Two initial blood film surveys revealed the following infection:

	No. Examined	No. Positive for Malaria	Parasite Species			Per Cent Positive
			F.	V.	Mixed	
Adults.....	49	12	12	0	2	24.3
Children under 12 years.....	85	35	11	21	1	41.2
Total.....	134	47	23	21	3	35.1

As a rule, after three regular weekly treatments, the weekly thick blood film surveys were negative for parasites, but in twelve cases the gametocytes of *P. falciparum* persisted for some time: in 5 individuals for three consecutive weeks; in 3 for four weeks; in 2 for five weeks; and in 2 for six weeks.

Most of these individuals were children under 2 years of age, yet they took their treatment regularly. No difficulty was encountered in administration of the drug, for it is almost as tasteless as chalk and we had no toxic effects to

record. There were two people among the irregular visitors who had *P. vivax*. Each had had three successive weekly treatments and the third weekly survey recorded a few gametocytes.

SUMMARY AND CONCLUSIONS

Pyrimethamine has no unpleasant taste. Some babies were given crushed tablets with a drink of water to wash them down. No toxic effect was noted. Of the 47 who received weekly doses regularly, twelve revealed the gametocytes of *P. falciparum* in their blood films for two to six weeks. Blood films on all of the 134 regular people were negative at the end of the experiment. No clinical symptoms or relapse occurred during the 18 weeks of suppressive treatment in any of the treated people after the first 3 weeks, when all became free from asexual forms. This appears to be a very good drug for suppressive use if continued weekly. We get the same result with chloroquine but pyrimethamine is easier to administer.

ACKNOWLEDGMENTS

The Burroughs Wellcome & Co. provided the drug free of cost for the trial. The technicians of the Gorgas Memorial Laboratory who participated in the work were: Lionel de Sousa and Néstor González. Both of these men are qualified by years of experience in preparing and examining the blood films.