

Intestinal Parasitism in the Rhesus Monkey

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OBJECTIVE: To determine the incidence of intestinal parasites in rhesus monkeys arriving from India, and to evaluate the efficacy of the treatment used to control them.

BACKGROUND: Over 500 rhesus monkeys per year are brought into the animal colony at the SEATO Medical Research Laboratory. These animals are received in groups of 85 every 60 days, come directly from the wild in India, and weigh 2–3 kg upon arrival. They are usually heavily parasitized, are highly susceptible to viral and bacterial infection, and have been stressed by transportation and captivity when they arrive. In February 1973, a one year study was initiated to monitor the incidence of internal parasites in rhesus monkeys from India. Monkeys are quarantined for 45–70 days in our colony before issue to investigators.

PROGRESS: A fecal specimen was taken from each animal on the day of arrival and examined by the flotation method for ova and parasites. Each monkey was then treated by oral administration of thiabendazole (100 mg/kg body weight) on the next day. Fecal specimens were collected ten days after treatment and again examined for ova and parasites. All positive animals were re-treated with 100 mg/kg thiabendazole. Fecal specimens were again obtained at the end of the quarantine period. The results of these examinations are shown in Table 1.

DISCUSSION: The data presented in Table 1 were collected from 510 monkeys received over a 12 month period (Feb 1973–Feb 1974). Over 95% of the animals received were infected with parasites; over 90% with helminths, and over 75% with protozoans. *Strongyloides sp.* and *Trichostrongylus sp.* were the most commonly identified helminths. The incidence of helminths dropped to less than 10% after one treatment with thiabendazole, and to 5% after a second treatment. All helminths except *Trichuris sp.* were virtually eliminated after two treatments. The incidence of *Trichuris sp.* remained at the same relatively low level as before treatment.

The incidence of protozoans remained at approximately 75% throughout the quarantine period. The protozoans identified are commonly found in wild primates, appear to cause no serious clinical problems, and were not specifically treated. There was no significant change in parasite incidence or distribution with the season of year.

CONCLUSION: The incidence of intestinal parasites in wild rhesus monkeys from India was over 95%, with no significant seasonal variation. Thiabendazole given orally in a single dose of 100 mg/kg was shown to be highly effective against helminths, with a second dose ten days later virtually eliminating all helminths except *Trichuris sp.* This regimen of treatment was just as effective as the longer course of treatment (daily oral administration of 50 mg/kg for 10 days), required much less time and effort in catching and medicating animals, and placed less stress upon the animals being medicated.

Table 1. Intestinal Parasites Found in Rhesus Monkeys

PARASITE FOUND	Before treatment		After first treatment		Upon release from quarantine	
	No. Pos.	% Pos.	No. Pos.	% Pos.	No. Pos.	% Pos.
<i>Helminths</i>						
Strongyloides sp.	341	66.9	17	3.3	3	0.7
Trichostrongylus sp.	148	29.0	2	0.4	0	—
Ancylostoma sp.	43	8.4	8	1.6	2	0.5
Trichuris sp.	26	5.1	19	3.7	17	4.0
Nematode (Unspecified)	17	3.3	13	2.5	1	0.2
Ascaris sp.	1	0.2	1	0.2	0	—
Gastrodiscoides sp.	1	0.2	0	—	1	0.2
Streptopharagus sp.	0	—	0	—	1	0.2
Capillaria sp.	0	—	2	0.4	0	—
<i>Protozoans</i>						
Entamoeba coli	233	45.7	159	31.2	142	33.4
Entamoeba histolitica	156	30.6	148	29.0	172	40.5
Balantidium coli	127	24.9	107	21.0	82	19.3
Iodamoeba buetschlii	103	20.2	46	9.0	44	10.4
Endolimax nana	46	9.0	55	10.8	40	9.4
Chilomastix mesnili	9	1.8	17	3.3	17	4.0
Giardia lamblia	3	0.6	35	6.9	28	6.6
Unidentified	6	1.2	12	2.4	2	0.5