

## IS ARACHIDONIC ACID A NATURAL SCHISTOSOMICIDE?

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**S**chistosoma mansoni and S. haematobium infect >250 million people, yet not all people of the same community and household. Regarding rodents, mice but not rats are susceptible to infection with S. mansoni and hamsters but not mice are entirely permissive to infection with S. haematobium. A recent Brazilian publication has demonstrated that resistance of the water-rat to S. mansoni infection might be ascribed to stores of arachidonic acid (ARA) in liver. We have previously shown that ARA is a safe and effective schistosomicide in vitro, and in vivo in mice, hamsters and in

children. Schistosoma haematobium appeared more sensitive than S. mansoni to We herein propose that ARA increased levels might be predominantly responsible for natural attrition of S. mansoni and S. haematobium in resistant experimental rodents. Therefore, we compared and contrasted levels of ARA in serum, lung and liver of mice (susceptible) and rats (resistant) to S. mansoni at 1, 2, 3, 4 and 6 weeks after infection with S. mansoni cercariae and between hamster (susceptible) and mice (which are not permissive) at 1, 2, 3, 4, and 12 weeks after infection with S. haematobium cercariae. Arachidonic acid levels were assessed in serum by competitive enzyme-linked immunosorbent assay, and in liver and lung sections by immunohistochemistry and transmission electron microscopy. We recorded highly significant, consistent and reproducible correlation between ARA content in serum, lung and liver and rodent resistance to schistosome infection, thereby implicating ARA as a natural schistosomicide.