CONTENTS

page

page

ABSTRACT

The histopathological studies in the liver infected by *Opisthorchis viverrini* have indicated liver fibrosis which resulted in deterioration of liver functions. This finding has drawn our interests toward the effect of *opisthorchiasis* on hepatic collagen metabolism. Our results showed an increase in liver collagen content as well as prolyl hydroxylase activity which is required in the process of collagen biosynthesis in the infected liver. The results therefore suggested some alteration in collagen metabolism in *O. viverrini* infected liver.

In this study, the pattern of increase in liver collagen content, liver prolyl hydroxylase activity, and free proline content was determined at various times (1-24 weeks) after infection. The pattern of increase in collagen content was similar to that of the enzyme activity. Both parameters increased at the early stage of infection but no furthur increase was observed at long infection time. However, the increase of both collagen content and prolyl hydroxylase activity did not correlate with that of proline pool size in the infected liver. Therefore, the possibility that the biosynthesis of collagen might be controlled by free proline pool seemed to be unlikely. The *in vitro* biosynthesis of collagen by measuring the incorporation of [^{3}H]-proline into liver collagen by using liver slices also showed an enhancing in hepatic collagen synthesis in infected hamster. Both results suggested that the rate of collagen synthesis was stimulated in *Opisthorchiasis* resulting

in the formation of hepatic fibrosis.

The turnover rate of collagen in the *Opisthorchis* infected liver was studied and compared to that of normal liver. There was an approximetely 2 fold increase in the rate of degradation of newly synthesized collagen in the infected liver. Thus, it appeared unlikely that the increase in collagen content in the infected liver was due to a decrease in its degradation rate.

Praziquantel, a new series of anthelmintic drug was also found to be effective against *opisthorchiasis*. The liver fibrosis was recovered after praziquantel treatment since no stimulating of collagen synthesis occurred after eradication of the liver fluke.