### **HUMAN FASCIOLIASIS**

Essay submitted for the partial fulfillment of the Master degree in **Tropical Medicine** 

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#### LIST OF ABBREVIATIONS

Ab Antibody.

AFP Alpha feto protein.

Ag Antigen.

Asb Ascan's Lumbricoides.

b.w./d Body weight per day.

OC Degree Celsius.

C Control.

CDC Centers for disease control.

cDNA Complementary single-strand DNA.

C.F.T. Complement fixation test.

C.I.E.P. Counter immunoelectrophoresis.

cm Centimeter.

CNS Central nervous system.

Conc Concentration.

CSF Cerebrospinal fluid.

C.T.scan Computed tomography scan.

1D One-dimensional.

2D Two-dimensional.

d Day.

Da Delton.

d1 Deci liter=10<sup>-1</sup> liter.

DNA Deoxyribonucleic acid.

EITB Enzyme-linked immunotransfer blot.

ELISA Enzyme-linked immuno sorbent assay.

ERCP Endoscopic retrograde cholangio-pancreatography

ES Excretory / secretory products.

ESR Erythrocyte sedimentation rate.

FAST Falcon assay screening test.

F.g Fasciola gigantica.

F.h Fasciola hepatica.

Fh GST Fasciola hepatica glutathione-s-transferase.

F.U.O Fever of unkown origen.

g Grams.

GIT Gastrointestinal tract.

GST Glutathione-s-transferase.

h Hour.

Hb Haemoglobin.

HPLC High performance liquid chromatography.

ID Immunodiffusion.

IE Immunoelectrophoresis.

Ig Immunoglobulin.

IHA Indirect haemagglutination test.

IM Intramuscular.

IV Intravenous.

KDa Kilo Delton.

Kg Kilogram.

L Liters.

LDH Lactate dehydrogenase.

L.F.T Liver function tests.

mg Milligram.

MIF-C Merthiolate-iodinformaldehyde-concertration method.

min. Minute.

mm3 Cubic millimeter.

M.I.O.C Medical institute outpatient clinic.

nm Nanometer =  $10^{-9}$  meter.

OD Optical density.

PAGE Polyacrylamide gel electrophoresis.

pH The negative logarithm of the effective

hydrogen ion concentration as an expression for

both acidity and alkalinity.

PMN Polymorphonuclear.

P.T.C Percutaneous transhepatic cholangiography.

ppm Parts per million.

s Second.

S Serum.

SD Standard deviation.

SE Standard error.

SEA Soluble egg antigen.

SGOT Serum glutamate oxaloacetate transaminase.

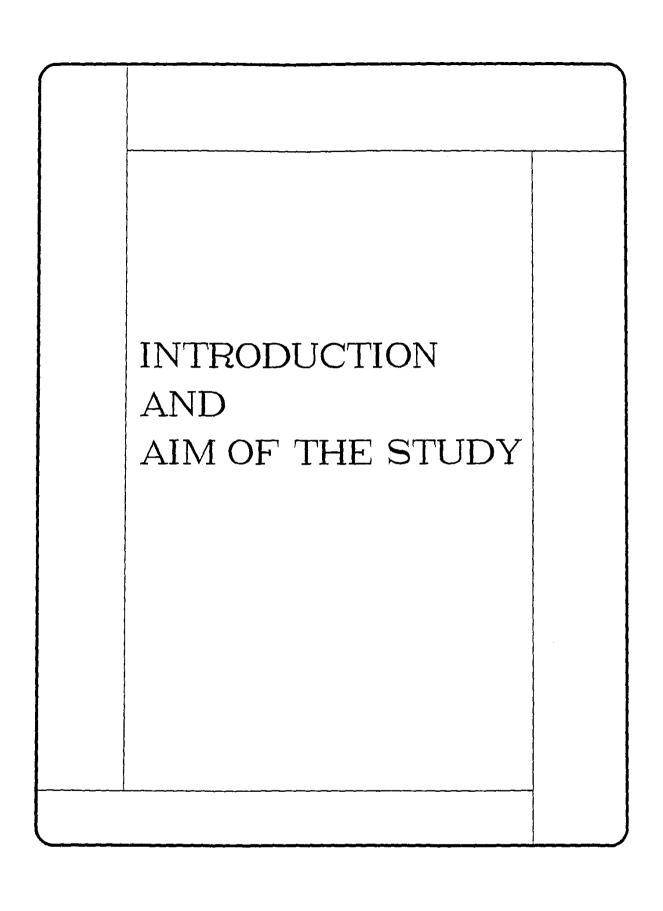
SGPT Serum glutamate pyruvate transaminase.

WHO World Health Organization.

wk Week.

u Micron =  $10^{-6}$  meter.

% Percent.



#### INTRODUCTION

#### AND AIM OF THE STUDY

Fascioliasis is a zoonotic disease with a world wide distribution specially among sheep and cattle. Fascioliasis is mainly caused by Fasciola hepatica and to a less extent by Fasciola gigantica. The adult fluke lives in the biliary passages where eggs are laid immature (Makled et al., 1988).

Human fascioliasis was considered rare but recently there is an increasing incidence up to the formation of small outbreaks in Alexandria and Monofia provinces (Abou Basha et al., 1989).

Regarding the pathology of the disease, the severity of hepatic lesions depends upon the number of parasites, their survival or death and the tissue reaction of the host (Jones and Hunt, 1983).

The main clinical presentations of acute fascioliasis are prolonged fever, right hypochondrial pain with tenderness, vomiting and may be icterus (Abdel Wahab, 1988).

Human fascioliasis may be confused clinically with amoebic hepatitis, acute viral hepatitis and chronic disorders of cirrhosis and primary carcinoma of the liver. (Perry et al., 1972).

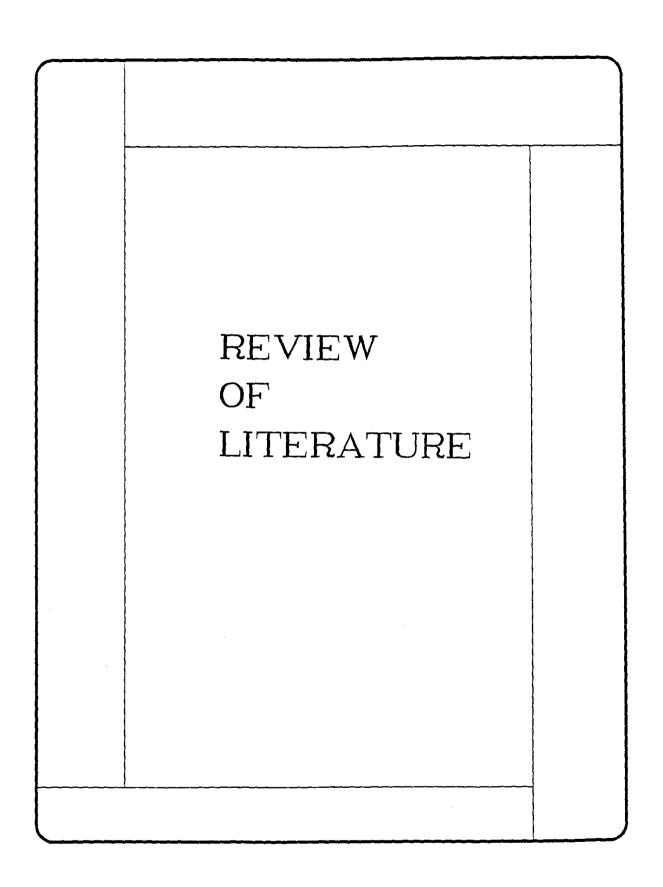
Ectopic fascioliasis may be demonstrated by the occasional appearance of the migrating larvae in sites other than the liver (Ragab and Farag, 1978). If human fascioliasis is left untreated, complications appear which vary in severity and may reach up to liver failure and death, although the clinical manifestations may be mild or even absent (Schiappacasse et al., 1985).

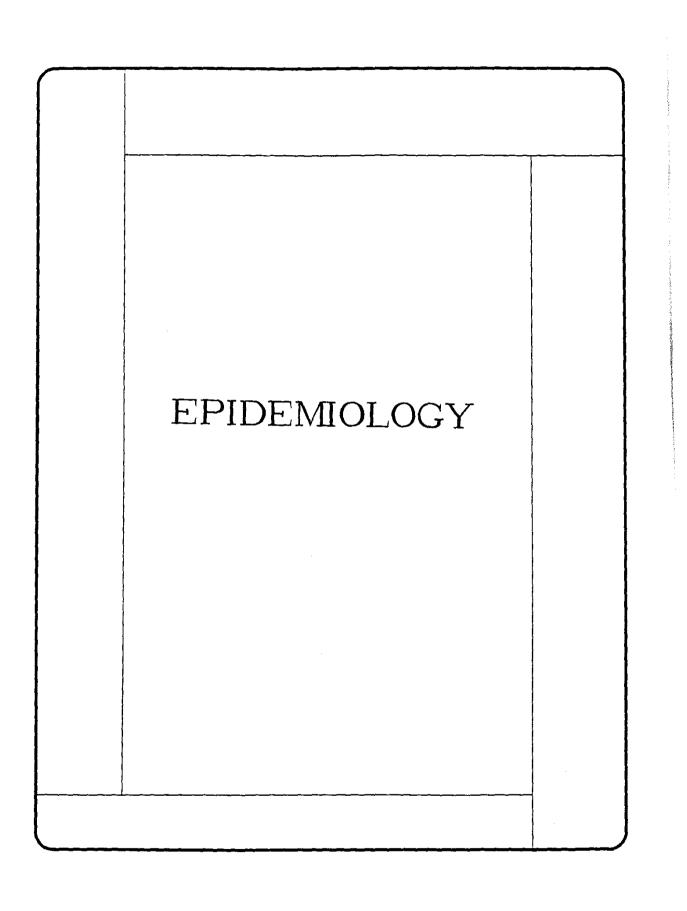
There is much controversy as regards the diagnosis and therapy of human fascioliasis (Farid et al., 1988).

The key factor in preventing human fascioliasis is health safeguard (Marsden and Warren, 1984).

#### THE AIM OF THE ESSAY:

Review of the recent concepts in the epidemiology, parasitology, pathology , clinical picture , diagnosis and therapy of human fascioliasis .





# REVIEW OF LITERATURE A- EPIDEMIOLOGY

#### I- Abroad

Sporadic cases of human fascioliasis from various countries have been found (Faust and Russell, 1964 and Jones et al., 1977).

The disease is more common in cattle - and sheep - raising areas with a warm and humid climate such as Latin America, Cuba, Northern Africa (especially Algeria), Southern France and other Mediterranean countries (Faust and Russell, 1964 and Farag et al., 1979). However large breaks were reported in England (Facey and Marsdan, 1960 and Hardman et al.,1970) and in France (Pautrizel et al.,1964 and Giraudet, 1968).

Human fascioliasis is quite rare in the United States (Norton and Monroe,1961, Clay and Straight, 1961, Hadden and Pascarelli, 1967, and Belgraier, 1976), even though Faust and Russell,1964 reported that numerous animals were known to harbor Fasciola hepatica in vast parts of the southern and western United States. However it has been continuously found in many countries as Spain, France, Italy, Turkey, Syria, Algeria, Morocco, Tunisia and other Mediterranean countries. Human fascioliasis has been very common in Portugal up to 15% in some human populations (Diago, 1979). It is found in many Arab countries of the Near East, as people living in small villages, eat raw vegetables and raw or partially cooked meats such as lamb or liver which are staple dietary ingredients in these countries. Also water for drinking and cooking purposes are usually obtained from small open streams in or near those villages (Schiappacasse et al., 1985).