Laboratory Role In The Diagnosis Of Pancreatic Diseases

Essay

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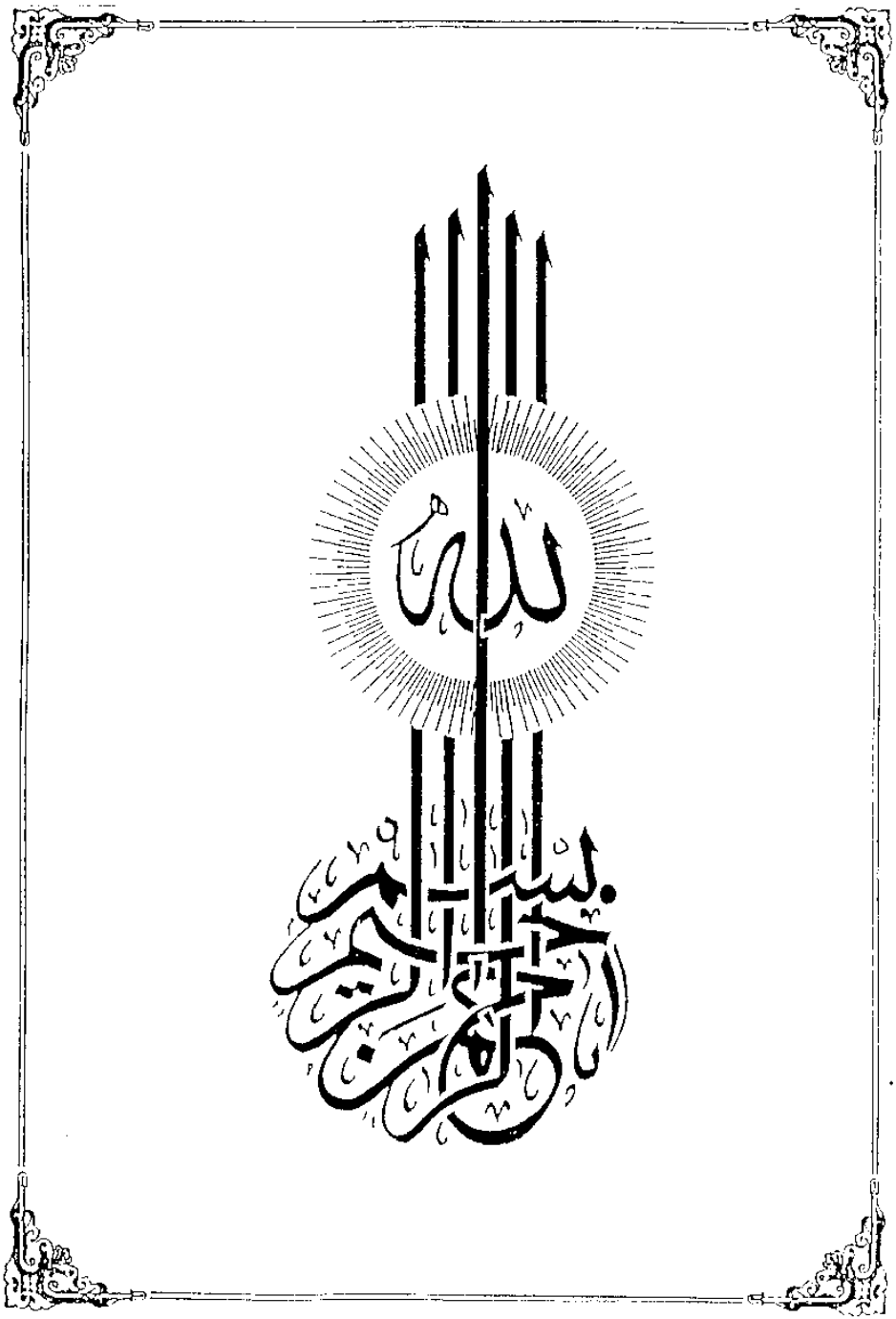

بسم الله الرحمن الرحيم

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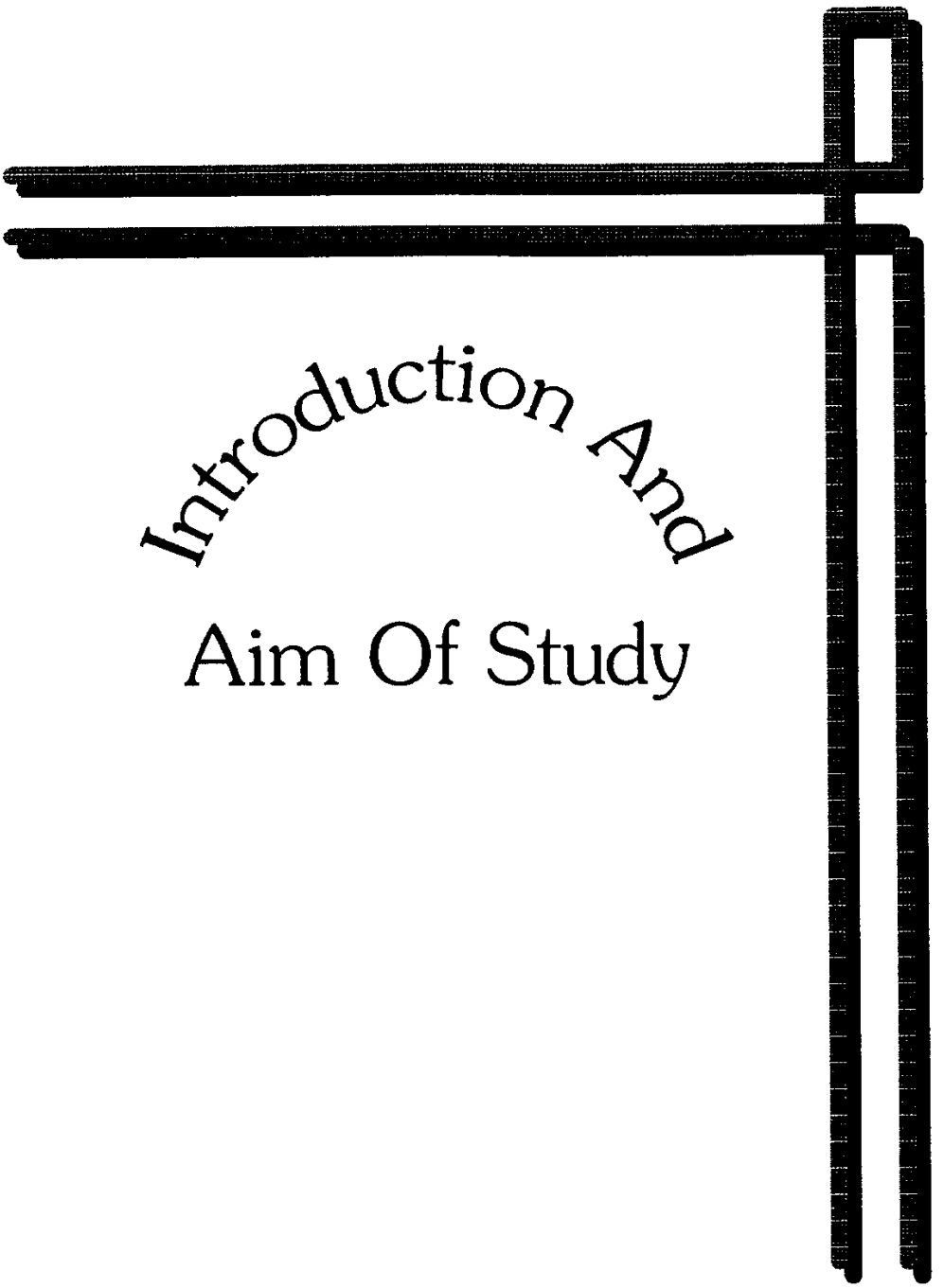

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INTRODUCTION

As the pancreas is an inaccessible organ to direct examination, so disease processes may be far advanced before they become clinically manifest. The pancreas lies in close proximity to a number of important structures such as the duodenum, stomach, and liver. Since the pancreas has no well defined capsule, its inflammation or neoplastic changes may spread and cause secondary involvement of adjacent structures. Diseases such as acute and chronic pancreatitis, pancreatic carcinoma and cystic fibrosis are responsible for a small but significant morbidity and mortality ***(Henderson et al., 1994)***.

The pancreas has two functions. First, it is an endocrine gland that synthesizes the hormones insulin, glucagon, and gastrin. Diabetes mellitus is a very important metabolic disorder arising from pancreatic endocrinal dysfunction with defective insulin production. Pancreatic transplantation proved to be a very promising management for this metabolic disorder ***(Bolinder, 1989; and Martin et al., 1994)***.

The second function of pancreas is as an exocrine gland providing digestive enzymes in a bicarbonate fluid to facilitate duodenal digestion of food. In some disorders such as pancreatitis or obstruction of the pancreatic duct, the flow of enzymes and bicarbonate into the duodenum is impeded, this in turn leads to back flooding of pancreatic enzymes into the blood stream. Thus,

the determination of these enzymes could be used as a diagnostic tool for pancreatic diseases and many tests have been developed to assess exocrine pancreatic function ***(McNeely, 1989; and Bruno et al., 1995)***.

Pancreatic cancer is an extremely aggressive malignancy and its diagnosis is very difficult specially in the early stages. This is due to the fact that it presents with vague symptoms. Moreover, the pancreas can not be examined endoscopically. The physicians usually depend on the occurrence of a mass detected by computerized tomography or ultrasonography which is a very late presentation. Pancreatic tumor markers are the most promising non-invasive diagnostic laboratory tools for such malignancy ***(Kawa et al., 1994)***.

AIM OF THE STUDY

The aim of this essay is to review the laboratory role in the diagnosis and follow up of different pancreatic endocrinal and exocrinal diseases as well as neoplastic disorders.