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شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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التوثيق الالكتروني والميكروفيلم

قسم

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بالرسالة صفحات لم ترد بالاصل

POST SPLENECTOMY ASSESSMENT OF IMMUNITY AGAINST INFECTION IN NORMAL AND PATIENTS WITH LIVER CIRRHOSIS

Thesis

Submitted in partial fulfillment of the Requirements of the M.D. degree
in Tropical Medicine & Hygiene

By

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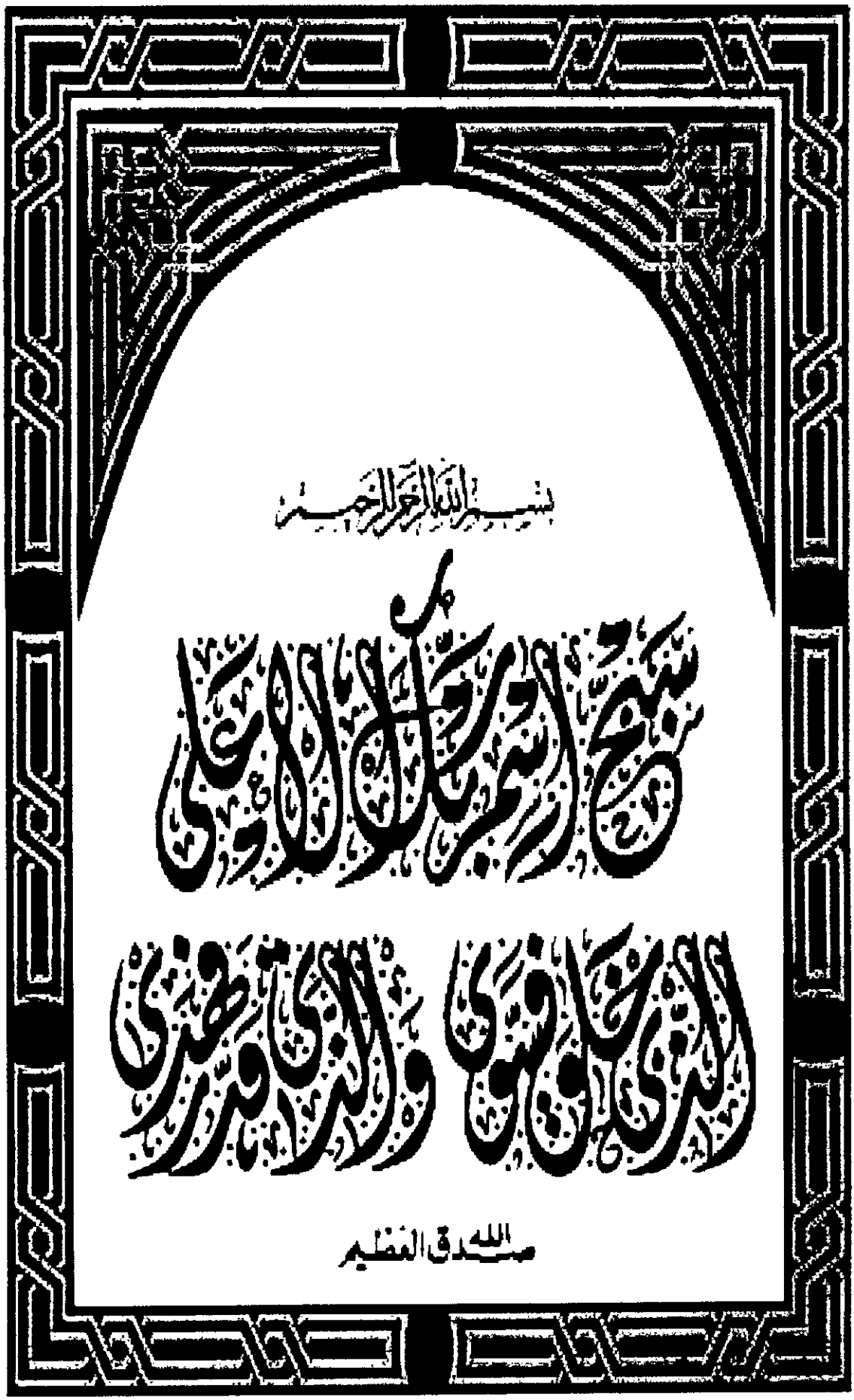
بسم الله الرحمن الرحيم
سبح اسم ربك الأعلى
الذي خلق فسوى والذي قدر فهدى
صدق الله العظيم

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The spleen has an important function in the host's response to infections by clearing polysaccharide-encapsulated bacteria. This response involves clearance of the blood stream as well as rapid production of specific antibodies against the polysaccharide antigens. After splenectomy, there is an increased risk of septic complications with a high mortality rate, especially in children. This is known as the "overwhelming postsplenectomy infection syndromes"***(Holdworth et al., 1991).***

The spleen is the major organ for the phagocystosis of low or non opsonized particles; hence, after splenectomy there is a decrease in the capacity of the mononuclear phagocyte system. Another important function of the spleen is production of tuftsin, a stimulator of phagocytic activity. Therefore, we can expect that after splenectomy the phagocytic activity of the polymorphonuclear granulocytes will be decreased ***(Leemans et al., 1999).***

Finally, the spleen provides a rapid primary immunologic reaction by the production of immunoglobulins after initial contact with an antigen, leading to the elimination of the antigen. It has been proposed that the initiation of the primary immune response to polysaccharide antigens, including pneumococcal polysaccharides, be specifically related to the spleen, in particular to the marginal zone ***(Timens et al., 1989)***.

This implies that after splenectomy there will be an impaired antibody response in relation to pneumococcal vaccination ***(Leemans et al., 1999).*** Thus, it is still a hot topic to evaluate the host's immune response to infection after splenectomy for various indications. Also, we'll evaluate the value of partial splenectomy and splenic autotransplantation in preserving the immune response against infection.

Review of literature

Review of literature

EMBRYOLOGY OF THE SPLEEN

The spleen arises entirely from mesoderm. It is first visible in the embryo at 5 weeks gestation and measures about 8-10mms ***(Baudler, 1990).*** In the early stages, the spleen consists of a number of mesenchymal masses that later fuse together, so by the third month it has acquired its characteristic shape, the notches along its anterior border are permanent indicating that the mesenchymal masses never fuse completely ***(Dean, 1980).***

Thin walled blood vessels appear between 8-9 weeks, they then proliferate, to reticular cells and fibers form sheaths surrounding them. Lymphocytes appear during forth month with B. cells predominating over T. cells ***(Rolfes, and Ros, 1990).*** During these embryogenic changes, the branches of the splenic artery must be open into spaces called sinusoids, which may be devoid of an endothelial lining. Some of the lining cells of the sinusoids become specialized to perform the reticuloendothelial system ***(Hamilton and Mass men, 1972).*** The spleen is an organ of hematopoiesis and granulocytes, erythrocytes and megakaryocytes precursors are present. By 6 months it is possible to distinguish between the red and white pulp. ***(Tortora, and Grabowski, 1993).***

Accessory spleens are not rare and present in 10-35% of individuals but in 85% of these individuals the accessory spleen is single ***(Mc vary, 1984).*** The most common site of accessory spleen lies at the hilum of the spleen ***(Warwick, & Williams, 1992).***

ANATOMY OF THE SPLEEN

Surface anatomy of the spleen

Spleen is situated in the left hypochondrial region of the abdomen but its posterior edge extends into epigastric region, lying between the fundus of the stomach and the diaphragm, its long axis lies in the line of the tenths rib, its posterior extremity being about 3.5 – 4.0 cm from mid dorsal line opposite the spine of the tenth thoracic vertebra, and its anterior extremity reaching as far as the mid axillary line ***(Warwick, and Williams, 1992).***

Macroscopic anatomy of the spleen.

The spleen is an abdominal organ, purple colour, ovoid in shape and is about 12 cms long, 7 cms wide and 4 cms in thickness. Its size, shape and weight vary considerably with age and between individuals ***(Agur and Lee 1999).*** It lies in the left hypochondrium region of the abdomen between the diaphragm and the fundus of the stomach ***(LAST, 1999).*** The spleen is characterized by notched anterior border. The convex parietal surface of the spleen is in contact with the diaphragm deep to the 9th, 10th and 11th ribs. Its long axis follows the 10th and 11 rib up to the mid axillary line. Through the diaphragm, the spleen is related to the pleural recess and to the thin inferior of the left lung ***(Mc Minn et al., 1995).*** The visceral surface faces down and to the right into the abdominal cavity. It is anteriorly related to the fundus of the stomach, medially to the left kidney and inferiorly to the splenic flexure of the colon and the lateral end of the pancreas ***(Shephard, 1992).***