EFFECT OF LYOPHILIZED BACTERIAL LYSATE BRONCHO-VAXOM ON THE LUNG AND SOME LYMPHOID ORGANS IN THE ALBINO RAT

THESIS
SUBMITTED FOR THE PARTIAL FULFILLMENT OF
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BY

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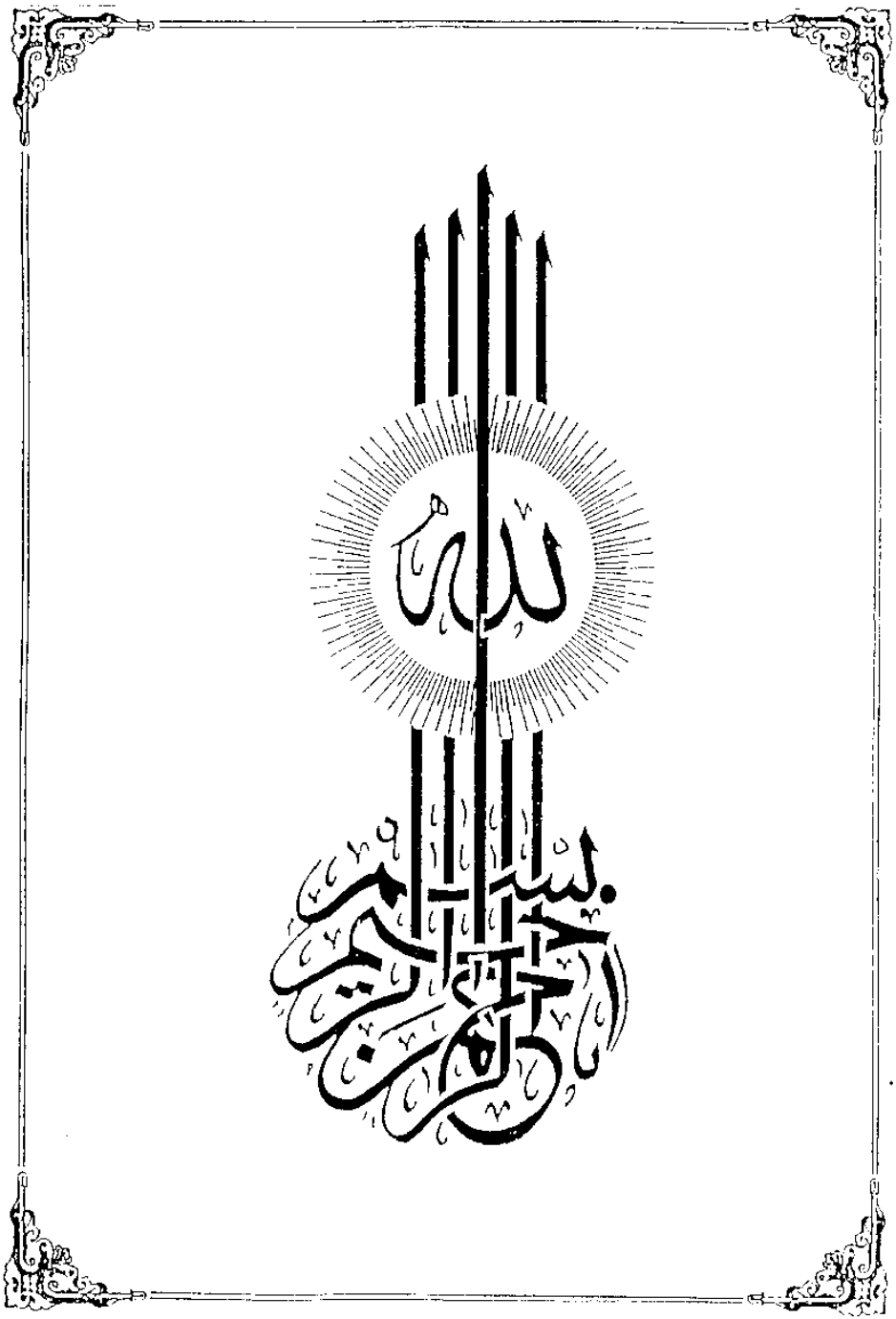

بسم الله الرحمن الرحيم

﴿وقل اعملوا فسيرى الله عملكم ورسوله والمؤمنون﴾

جامعة عين شمس
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رسالة دكتوراه

اسم الطالب : هويدا عبد العظيم سمير عرفات

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TO.....

MY CHILDREN

&

MY FAMILY

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Abstract

Over a period of 6 months, the immunomodulatory effects of BV were studied in adult, male Lewis rats gavaged with 180 mg BV/kg daily or an equal volume of distilled water for the first 10 days of 3 consecutive months. The concentrations of serum IgG, IgM and IgA and of secretory IgA in the saliva, bronchoalveolar lavage (BAL) and intestinal lavage (IL) were measured by radial immunodiffusion. Tissue sections from the ileal Peyer's patches, mesenteric lymph nodes and lungs were examined by the light and electron microscope.

A significant ($p<0.05$) increase in the serum concentration of IgG was observed by day 30 and was maximally increased (140% above pretreatment concentrations) by the end of the third month. Serum IgM reached its maximum increase of 75% above pretreatment concentration at the end of the first month. Serum IgA showed a maximum significant increase ($p<0.05$) of 60% above pretreatment concentration at the end of the fourth and fifth months. Salivary IgA was maximally increased (400% above pretreatment concentration), 15 days after initiation of BV treatment. IgA/albumin ratio in BAL and IL showed significantly ($p<0.05$) higher concentrations versus control rats. The elevated concentrations of all the immunoglobulins persisted to the end of the sixth month.

In ileal Peyer's patches intestinal immune reponse was demonstrated. An increase in intraepithelial T supressor cells, plasma cells and follicle associated epithelial M cells was observed. Macrophages and dendritic reticular cells showed some grades of increase and T helper cells occupying the interollicular areas were increased.

In mesenteric lymph nodes the appearance of the large pyroninophilic cells in the medullary sinuses and parenchyma was the first early indication of the occurrence and propagation of an immune response. The appearance of T nodules in the paracortex during the early stages followed by appearance