EVALUATION OF THE DIFFERENT TYPES OF QUALITY CONTROL MATERIALS USED IIN CLINICAL CHEMISTRY

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE M.D.DEGREE OF CLINICAL AND CHEMICAL PATHOLOGY

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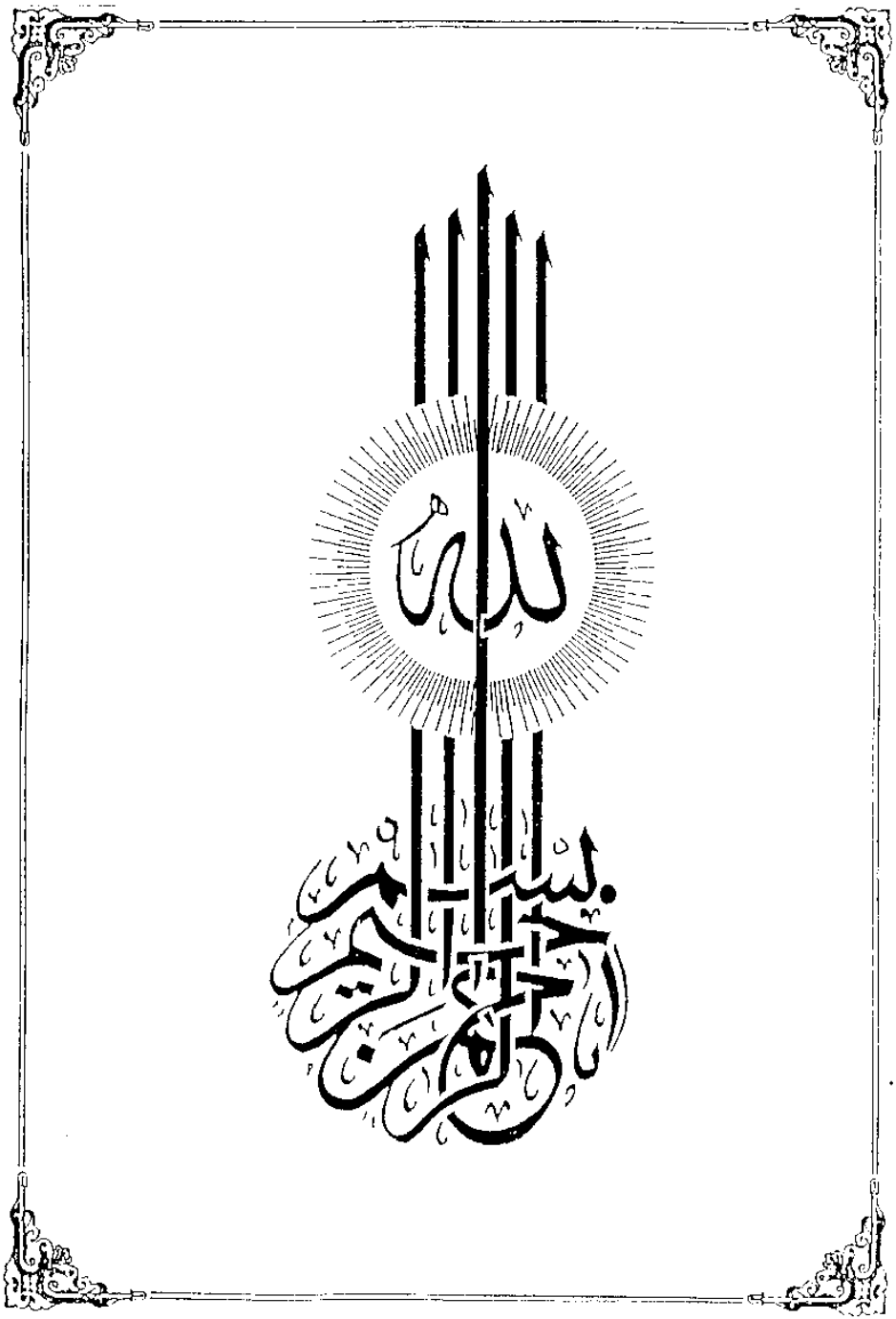

'TO MY DEAREST PARENTS'

WITH ALL THE LOVE

AND

GRATITUDE ON EARTH

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ACKNOWLEDGEMENT

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INTRODUCTION

AND

AIM OF THE WORK

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The function of a routine biochemistry department is to provide the clinician with reliable analytic data. Quality control is one means of ensuring that results being issued from a hospital laboratory are dependable and sufficiently accurate to allow decisions to be taken with confidence. In this respect both internal quality control and external interlaboratory assessment programs are essential. However, the latter have not yet been established in developing countries.

Recently, a big variety of commercially available control products whether in the lyophilized or liquid state have been introduced by a lot of manufacturers. The reliability of these products greatly depends on their stability.

The aim of the present study is to evaluate both the long-term stability as well as the short-term stability of two different types of commercially available control materials, namely; 'Biotrol-u2 Plus' and 'Beckman Decision Level II'. The former is a lyophilized product

of Biotrol* laboratories, whereas the latter is an ethylene glycol-stabilized liquid control material, recently introduced by Beckman* Instruments Incorporation.

Furthermore, a serious trial is made aiming at the preparation of our own quality control material from pools of surplus patients' specimens in a trial to reduce the expenses. In this respect two-level pooled sera with different types of preservatives; namely thiomersal and sodium azide will be studied for their long-term stability at different storage conditions (2-8 °C and -20 °C respectively).

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* Biotrol Laboratories, 75140, Paris, Cedex 03.
* Beckman Instruments INC., Brea, California, U.S.A.