ROLE OF ENTERIC ADENOVIRUSES IN PEDIATRIC GASTROENTERITIS

Essay
Submitted for Partial Fullfilment of Master Degree in Clinical and Chemical Pathology

By

Dr. KHALED OMAR MOHAMED ABDALLAH
M.B., B.Ch.

Supervisors

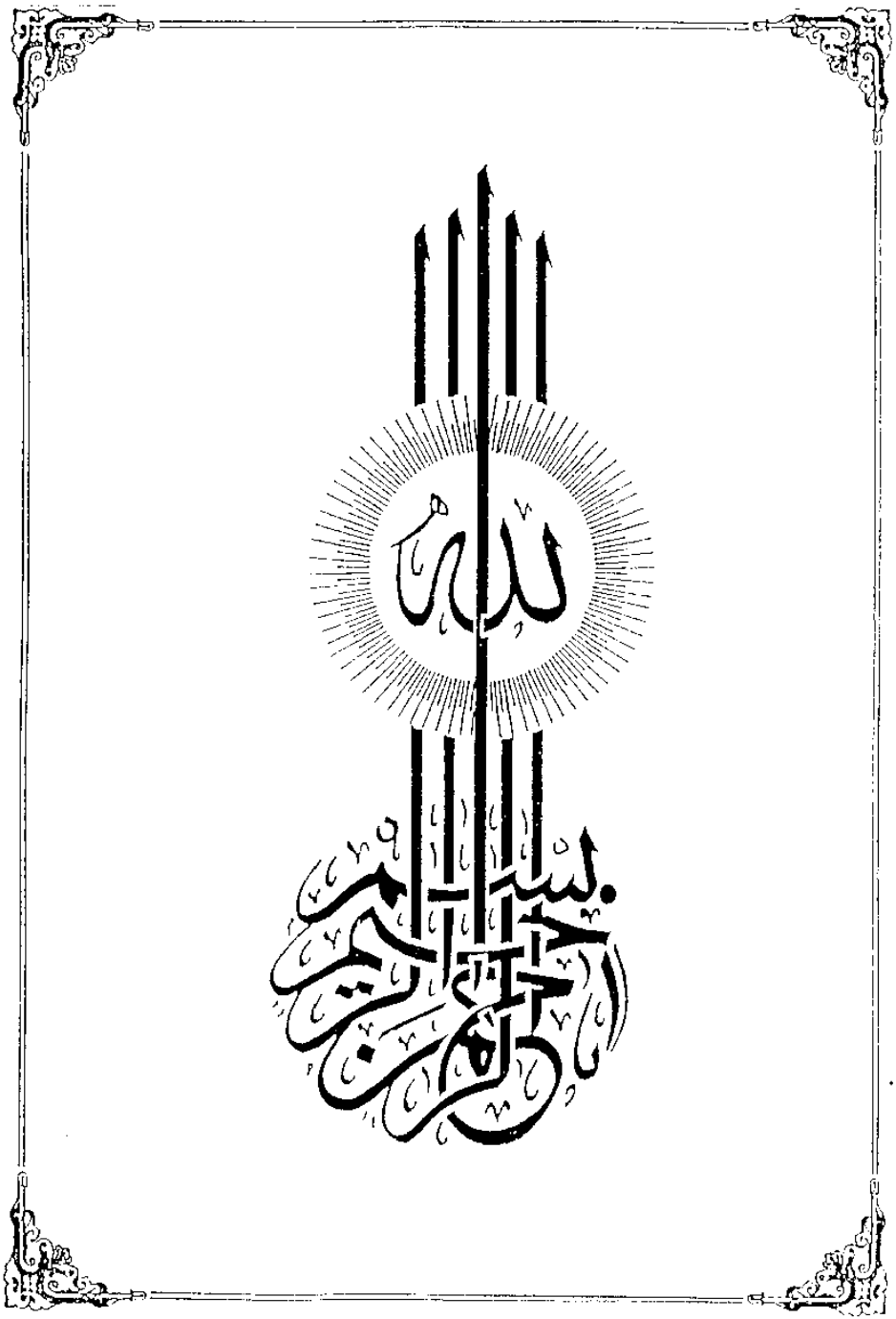
Ass t. Prof. Dr. HADIA HUSSEIN BASSIM
Assistant Prof. of Clinical and Chemical Pathology
Faculty of Medicine, Ain Shams University

Assist. Prof. Dr. MAGDA SALAH EL-DIN GABR
Assistant Prof. of Clinical and Chemical Pathology
Faculty of Medicine, Ain Shams University

Dr. NAHED AHMED MAHMOUD AFIFY
Lecturer of Clinical and Chemical Pathology
Faculty of Medicine, Ain Shams University

Department of Clinical Pathology
Faculty of Medicine
Ain Shams University

1998



ROLE OF ENTERIC ADENOVIRUSES IN PEDIATRIC GASTROENTERITIS

Essay

Submitted for Partial Fullfilment of Master Degree in Clinical and Chemical Pathology

By

Dr. KHALED OMAR MOHAMED ABDALLAH

M.B., B.Ch.

Supervisors

Assist. Prof. Dr. HADIA HUSSEIN BASSIM

Assistant Prof. of Clinical and Chemical Pathology
Faculty of Medicine, Ain Shams University

Assist. Prof. Dr. MAGDA SALAH EL-DIN GABR

Assistant Prof. of Clinical and Chemical Pathology
Faculty of Medicine, Ain Shams University

Dr. NAHED AHMED MAHMOUD AFIFY

Lecturer of Clinical and Chemical Pathology
Faculty of Medicine, Ain Shams University

Department of Clinical Pathology
Faculty of Medicine
Ain Shams University

1998

ACKNOWLEDGEMENT

I would like to express my special thanks and appreciation to ***Prof. Dr. Hadia Hussein Bassim,*** *Assistant professor of Clinical and Chemical Pathology, Faculty of Medicine, Ain Shams University for her encouragement, great supervision, valuable guidance and generous co-operation in the course of this study.*

I wish to extend my deepest gratitude to ***Prof. Dr. Magda Salah El-Din Gabr,*** *Assistant Professor of Clinical and Chemical Pathology, Faculty of Medicine, Ain Shams University for her kind support, valuable suggestions, unlimited effort and great encouragement.*

I also express my sincerest thanks to ***Dr. Nahed Ahmed Mahmoud Afify,*** *Lecturer of Clinical and Chemical Pathology, Faculty of medicine, Ain Shams University for her sincere help and guidance.*

Dr. Khaled Omar

1998

CONTENTS

INTRODUCTION
AND
AIM OF THE STUDY

INTRODUCTION AND AIM OF THE STUDY

Introduction:

Rota viruses and Adenoviruses are the main aetiological pathogens of gastroenteritis ***(Dupuis et al., 1995).***

Enteric Adenoviruses (EAds) serotypes Ad40 and Ad41 of subgenus F have been established as causative agents of gastroenteritis ***(Yamashita et al., 1995).***

Adenoviruses are relatively more important as causes of viral gastroenteritis in infants aged less than 6 months than in infants aged 12 months or more. But even in young infants, more Rotavirus than Adenovirus infections were diagnosed ***(Bates et al., 1993).*** However, ***Yamashita et al. (1995),*** concluded that EAds were detected most frequently from the children aged 0-3 years.

Shears and Wright (1995), found that Adenovirus infections are most common in summer. The clinical characteristics include watery diarrhea accompanied by vomiting, abdominal pain, low grade fever and mild dehydration.

A distinct feature of EAds infection is the protracted diarrhea with mean of 8.6 and 12.2 days for Ad40 and Ad41, respectively. These symptoms are significantly similar to symptoms of infants infected with group A Rotavirus ***(Jarecki-Khan et al., 1993).***

Serotypes Ad40 and Ad41 differ from all other Adenoviruses by being unable to replicate in conventional cell

cultures. These fastidious viruses only grow in selected cell lines, 293 cells of HEK,being the most commonly used. These viruses can be directly identified and typed by ELISA and immune electron microscopy. The amount of viral DNA in stool specimens is sufficient for identification by DNA restriction and dot blot assays. The recent development of highly sensitive and specific monoclonal antibody based ELISAs enable accurate diagnosis of Adenovirus gastroenteritis ***(Uhnoo et al., 1990).***

Aim of the Study

The present study aims to highlight the importance of Adenoviruses as causative agents in gastroenteritis in children.