# NATURAL "PASSIVE" IMMUNITY AGAINST MEASLES AMONG EGYPTIAN INFANTS

*Thesis*
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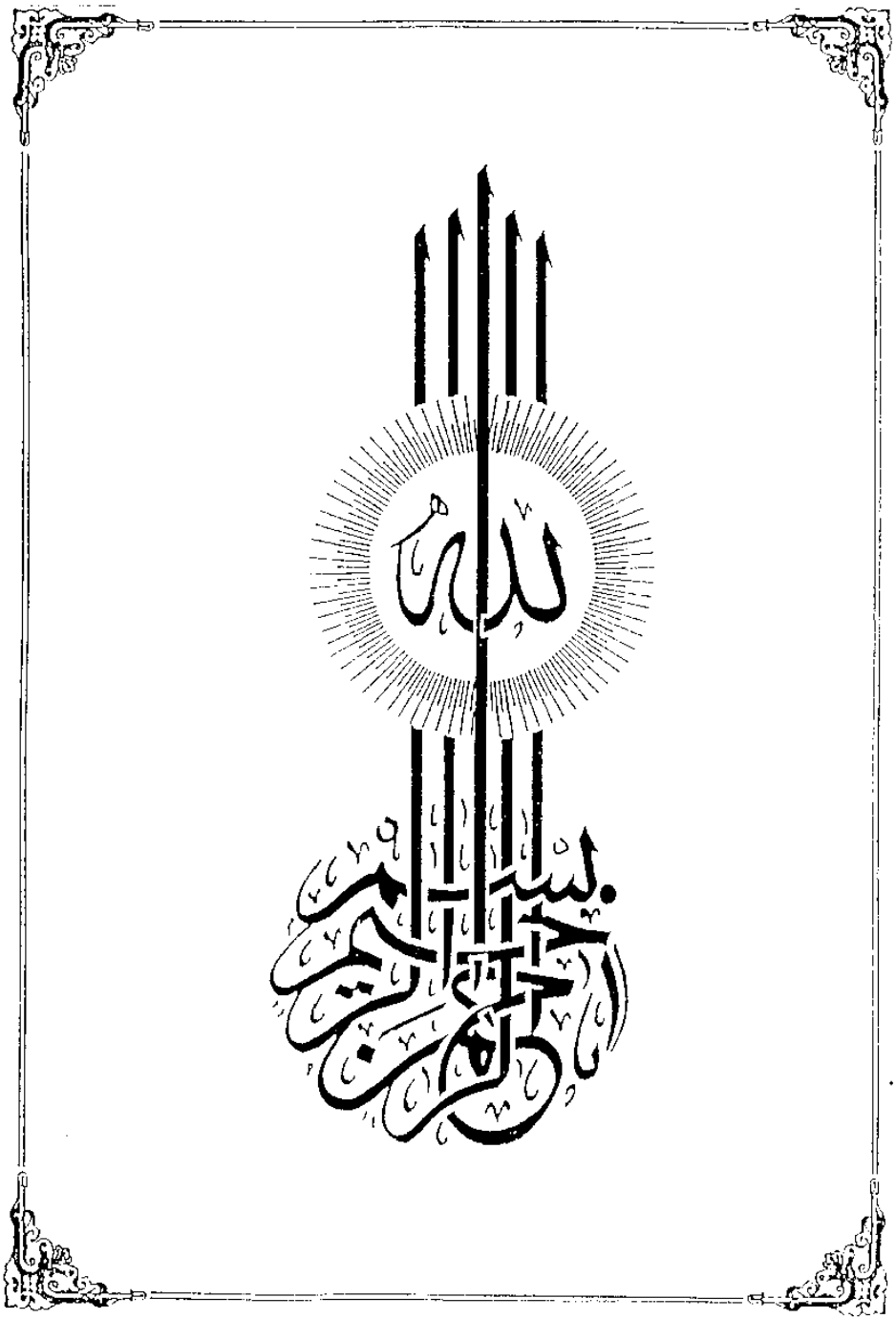

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# ABBREVIATIONS

| | | |
|---|---|---|
| AIDS | : | Acquired immuno-deficiency syndrome |
| C.D.C. | : | Centers for Disease Control |
| C.F. | : | Complement fixation |
| C.N.S | : | Central nervous system. |
| C.S.F. | : | Cerebro spinal fluid. |
| E.I.A. | : | Enzyme immuno-assay. |
| E.L.I.S.A. | : | Enzyme linked immuno-sorbent assay. |
| E.N.T. | : | Enhanced nutralization. |
| E.P.I. | : | Expanded Programme on Immunization. |
| E.U. | : | ELISA Units. |
| E.Z. | : | Edmonston Zagreb. |
| F.w.P. | : | Four week periods. |
| H.A.I. | | Hemagglutination inhibition. |
| H.D.C. | : | Humman diploid cell. |
| H.I.V. | : | Human immuno-deficiency virus |
| Ig | : | Immunoglobulin. |
| ISG | : | Immune - serum globulin. |
| KMV | : | Killed measles vaccine. |
| L.B.W. | : | Low birth weight |
| M.M.R. | : | Measles Mumps and Rubella |
| M.O.H. | : | Ministry of Health |
| NT | : | Nutralization |
| RNA | : | Ribo nucleic acid. |
| SSPE | : | Subacute sclerosing panencephalitis |
| Tc | : | Tissue culture. |
| WHO | : | World Health Organization |

# INTRODUCTION AND AIM OF THE WORK

# INTRODUCTION

Measles is caused by a single stranded RNA virus of the "Paramyxovirus" group that is related to "Morbillivirus" genus ***(Panum, 1940).***

It is a systemic disease, the primary site of infection is the respiratory epithelium of the nasopharynx. Two to three days after invasion and replication in the respiratory epithelium, there is a primary viremia with infection of the reticuloendothelial system. This is followed by secondary viremia which occurs 5 to 7 days after initial infection ***(Bloch et al., 1985).***

Following an incubation period averaging 10 to 12 days, the patient typically develops a prodrome consisting of fever and malaise followed by cough, coryza and conjunctivitis. An enanthem, characterized by small bluish - white spots on a red background (Koplik's spots), may be seen on the buccal mucosa 2 days before to 2 days after onset of rash. The characteristic rash of measles usually appears 2-4 days after the onset of the prodromal symptoms ***(Krugman et al., 1965).***

Measles can be diagnosed clinically by the characteristic rash and the prodromal symptoms. The disease is confirmed by documenting significant rise in antibody titre ***(Norrby, 1988).***

In developing countries, measles is generally more severe and affects younger children than in developed countries. The average age at infection also differs between urban and rural areas. Crowding and more

frequent epidemics in urban areas lead to greater opportunity for exposure to measles in younger children ***(Hyden, 1974)***.

With the introduction of measles vaccine, many developing countries have had success in lowering morbidity and mortality from measles ***(Henderson et al., 1988)***.

Almost all infants acquire passive immunity againest measles through transfer of (IgG) antibodies across the placenta. The age at which infants become susceptible varies owing to differences in transplacental transfer antibody and in rates of loss of antibody in different parts of the world ***(Black et al., 1986)***. In general, infants in developing countries lose antibody at younger age than those in developed countries ***(Dabis et al., 1986)***.

The proplem of high morbidity and mortality in children younger than the recommended age for vaccination (9 months) has stimulated interest in developing strategies for vaccination of younger infants ***(EPI, 1990)***.

# AIM OF THE WORK

The aim of the present work is to evaluate the natural transplacental immunity against measles among Egyptian infants less than 9 months, through measurement of level of serum (IgG) antibody against measles in infants (5 - 6 months). This may enlight us about the optimal age for vaccination against this disease.