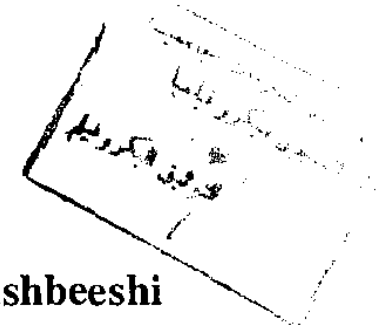
INTERPRETATION OF VARIOUS SEROLOGICAL TEST RESULTS FOR LABORATORY DIAGNOSIS OF SOME VIRAL INFECTIONS



By

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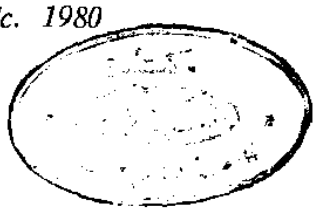

Thesis

Submitted in Partial Fulfillment For The Degree of

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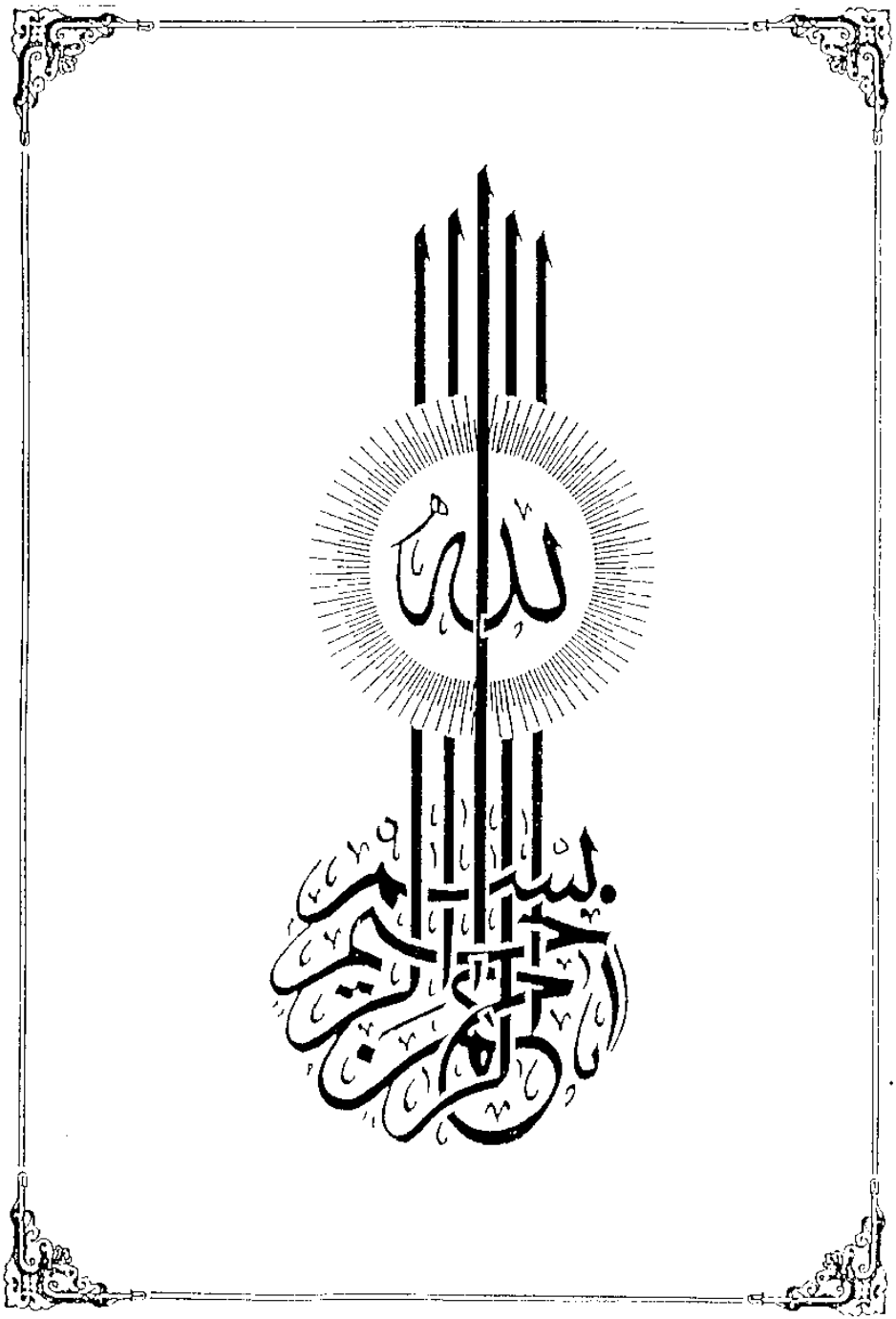

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To Mother;

The touching coo
and bliss in full...

To Father;

With hair gristled with grey;
yet, still modest in the habit of man...

To brother and sister;

Who befriended this my strech of life...

To spouse;

For the inthusiastic drives along the
tracts of this my work...

To beloved offspring...

To these running driplets of my livelihood;
This dedication is due.

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Exalted be Thy Name, O Lord! and praised be Thy Power.

Glorified be the knowledge You grant and that You will hold back; when the womb and tomb are considered the symbolical terms to signify the prologue and epilogue respectively of the ambitions of life by "Nun" and the "Pen and what they Scribe" may I present myself and the work I bring forth, as I feel that the machine of action has begun to catch me into its restless wheels..

As I find myself getting fully adhered to the manysided responsibility I'm entrusted with yet this I present, may it ensure me that my hopes are certain, and the world around me is not a shadowy frame of darkling sky and unfavourable chances.With the hope that by instinct and vertue of the intrinsic powers contained in man and woman, and the potential energy behind the acts of each, is disposed with the aim to define the truth, to bring forth what characterizes the acts of each with approval I hope of all levels.

Professor Dr. Kouka Saad El-Din Abdel-Wahab Professor of Virology.

Professor Dr. Sawsan El-Gammal, Ph.D. Professor of Microbiology.

Dr. Rifky Mohamed Al-Karamany; Virology Consultant.

Dear Professors, far; far beyond my ability to express profoundly what you are due of thanks, gratitude and indebetness for the lofly march I've managed to march in the light of the mental power of yours along with your well versed ability, courage and patience to guide me aright in this way. I step to get through or plunge into; verifying the truth the essense of wisdom and awareness, like wise, how dare I keep back may true feelings of gratitude and indebtednee to:

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Who eluminated my way to put forth a work that-I hope-may carry enough tunes to allure in this field of ours: Microbiology.
"Surely Allah does not leave unrewarded the actions of good doers".

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List of Abbreviations

A.A	*Antiviral Antibody.*
Ab	*Antibody.*
ADV	*Adeno Virus.*
Ag	*Antigen.*
AGMK	*African Green Monkey Kidney.*
ALRI	*Acute lower respiratory infection.*
AP	*Alkaline Phosphatase.*
Bact.	*Bacteria.*
BHK21	*Baby Hamster Kidney Cell Cultures.*
CFR	*Complement Fixation Reaction.*
CFT	*Complement Fixation Test.*
CMV	*Cytomegalo Virus.*
CNS	*Central Nervous System.*
CPE	*Cytopathic Effect.*
CSF	*Cerebrospinal Fluid.*
DFAb	*Direct Fluorescent Antibody.*
EBV	*Epstein Barr Virus .*
EM	*Electron Microscope.*
ELISA	*Enzyme Linked Immunosorbent Assay.*
FAb	*Fluorescent Antibody.*
FCS	*Foetal Calf Serum.*
FITC	*Fluorescein- Iso- Thiocyanate.*
g	*Gram.*
h	*Hour.*
HAI	*Hemagglutination Inhibition.*
HDF	*Diploid Strains of Fibroblasts Stablished from Human Fetus*
HEK	*Primary Human Embyo Kidney.*
Hepes	*N-2-hydroxy-ethyl-piperazine-N-2-ethane-sulfonic acid*
Hep-2	*continuous cell lines derived from human carcinomas support the growth fo certain viruses.*
HIG	*Hemolysis in Gell.*
HSAG	*Hepes-Saline-Albumin Gelatin.*
HSV	*Herpes Simplex Virus.*
IF	*Immunofluorescent Technique.*

IFAb	*Indirect Immunofluorescent Antibody.*
IFN	*Interferon.*
IFT	*Immunofluorescent test.*
Ig1	*Immunoglobulin 1.*
IgA	*Immunoglobulin A.*
IgD	*Immunoglobulin D.*
IgE	*Immunoglobulin E.*
IgG	*Immunoglobulin G.*
IgM	*Immunoglobulin M.*
ITH	*Intrathecal.*
LRTI.	*Lower Respiratory Tract Infection.*
MAb	*Monoclonal Antibody*
MK	*Monkey Kidney*
MV	*Mumps Virus.*
NP	*Nasopharyngeal Swab.*
NT	*Neutralization Test.*
PBS	*Phosphate Buffer Saline.*
PIV	*Para Influenza Virus.*
PNPP	*Para-Nitrophenyhl Phosphate*
RBC	*Red Blood Cell.*
RIA	*Radio-Immunoassay.*
RK	*Rabbit Kidney*
RMK	*Rhesus Monkey Kidney.*
RPH	*Reverse Passive Hemagglutination.*
RSV	*Respiratory Syncytial Virus*
SIR.	*Secondary Immune Response.*
SRBC.	*Sheep Red Blood Cell*
SRCF	*Single Radial Complement Fixation.*
SSPE	*Subacute Sclerosing Panencephalitis.*
SVF	*Secondary Vaccine Failure.*
TCI	*Tissue Culture Isolation.*
VB	*Veronal Buffer.*
Vero	*Cell lines derived from monkeys*
VZV	*Varicella Zoster Virus.*

AIM OF STUDY

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IN the field of virology, several serological methods are used to provide laboratory data for the diagnosis of viral infections. Since methods are working in different principles, their sensitivity and specificity differ considerably. For example, Complement Fixation Test (CFT) and Hemagglutination Inhibition Test (HI) can be used to detect viral specific antibodies reliably, however, these tests do not discriminate between IgG and IgM antibodies. On the other hand, when ELISA or Immunofluorescent (IF) procedures are employed, viral specific IgG and IgM antibodies can be detected separately. Also, quantitation of antibodies depends on the nature of the test. Settlement or lysis of red blood cells may be utilized to evaluate the results of CFT and HI tests. More sensitive assays operate with an enzyme labelled (ELISA) or a fluorescein dye labelled (IF) second antibodies for antibody detection. When two or more methods are used for antibody measurement, it is essential to know the meaning of their titer values. Comparing the values of various tests is especially important because this is the way how we can interpret laboratory data realistically.

Therefore, this study aimed at:

1. Comparing titer values of CFT and ELISA for measles, mumps, and adeno virus infections.
2. Assessment of HI titers and ELISA titers for rubella virus infection.