MOLLUSCUM CONTAGIOSUM

THESIS

Submitted for Partial Fulfilment of the Master Degree in Dermatology and Venereal Diseases

By

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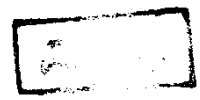

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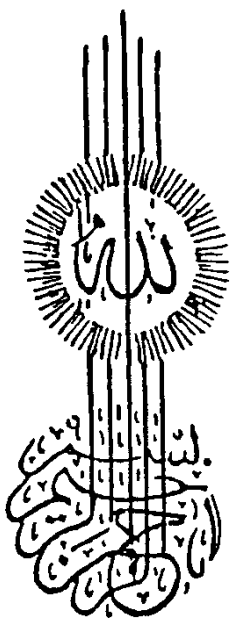

قالوا

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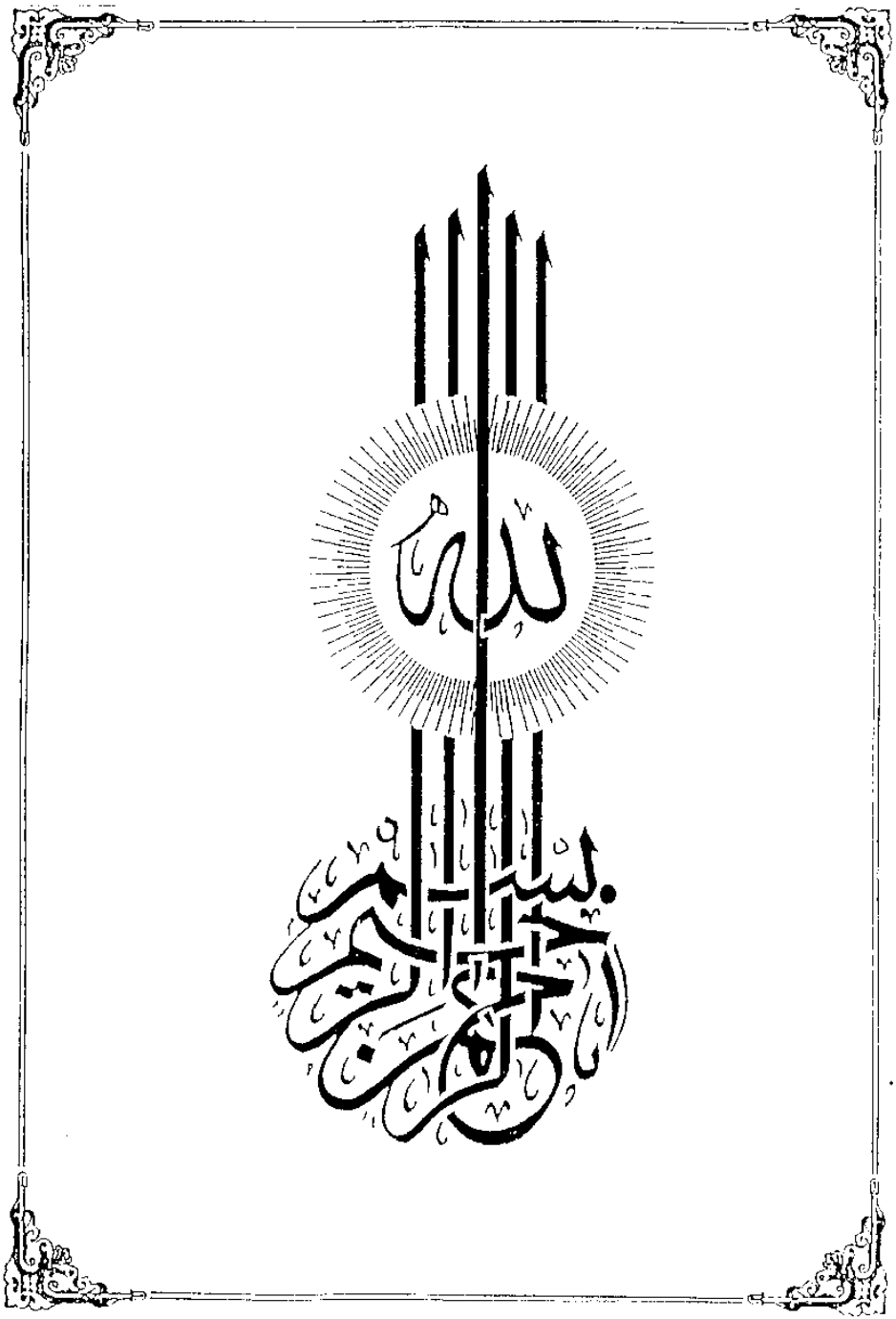

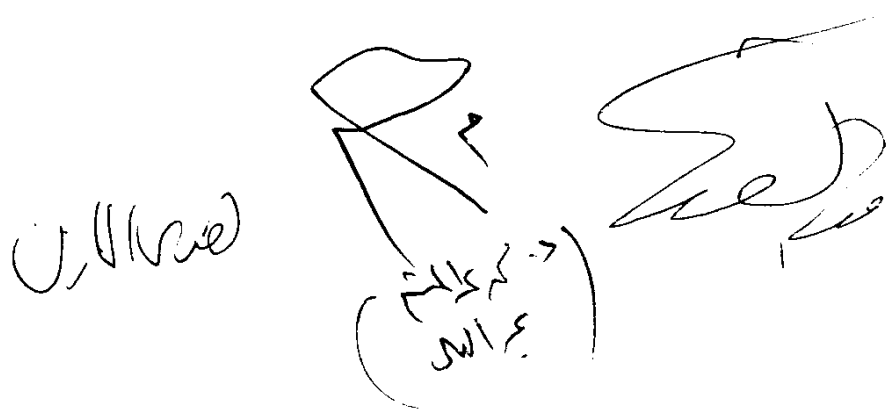

ACKNOWLEDGEMENT

I am very much honoured to work under the supervision of **Professor Dr. MONA ELOKBY**, *Professor of Dermatology and Venereal Diseases, Ain Shams University. Her encouragement, welcomeness and continuous guidance made the accomplishment of this review easy and smooth.*

I would like to express my deep endebtedness and gratitude to **Dr.** *NAGWA* **YOUSSEF**, *Assistant Prof. of Dermatology and Venereal Diseases, Ain Shams University, for her close supervision and continuous guidance during the work.*

Lastly I have to record my gratitude to my wife NAWAL for her encouragement and help and to my daughter NISRIN who showed tremendous patience during the work.

CONTENTS

INTRODUCTION

MOLLUSCUM CONTAGIOSUM
(Lat. molluscus, amolluse, from mollis, soft)

Synonyms. Molluscum sebaceum; Epilthelioma contagiosum; Molluscum epitheliale; Acne varioliforme (Bazin).

Molluscum contagiosum is a benign skin tumour of world-wide distribution whose epidemiological features have been summarized by Overfield & Brody (1966). Affecting human skin and conjunctiva exclusively, molluscum contagiosum is a disease manifested by discrete waxy papules with a cornified centre, which may be umblicated or project as a plug. A cheesy material can be expressed consisting of the husks of epidermal cells (molluscum, or Henderson & Paterson bodies) stuffed with the elementary bodies of the causative organism (Stewart et al., 1978).

The disease must not be confused with fibrosum (neurofibromatosis), from which it was separated by Thomas Bateman (1814), nor with molluscum sebaceum (keratoacanthoma) (MacCormac and Scarff, 1936), a name which has unfortunately been used also for molluscum contagiosum. In its typical clinical form it is easy to recognize, but giant, miliary or secondarily infected lesions and keratotic or crusted plaques can confuse the diagnosis (Mehregan. 1961). Difficulties may also arise with solitary tumours of the sole (Baxter & Carson, 1964) or face (Tobias, 1951), particularly

if accompanied by regional lymphadenopathy. Perilesional eczema or inflammation in skin or eye can over shadow small molluscum (Henao & Freeman, 1964).

Molluscum contagiosum is caused by a virus which morphologically resembles those of the poxgroup, and in fact it is considered to be one of the largest members of this group infectious to man (Postlethwaite et al., 1967). However, the isolation of the virus in vitro is a subject of controversy. Consequently neutralizing antibodies have only been detected with difficulty and the pathogenesis of the condition is far from clear.

Lesions of molluscum contagiosum can be treated by destruction. Pinching with forceps is simple but painful, working in phenol with a sharpened stick is more agreable but unsuitable for use near the eyes, the electro-cautery elegant but requiring anaesthesia. large crops of lesions pose numerical problems (Kaye, 1966), and treatment with sulphonamide or tetracycline has been recommended. Results are inconsistent, and a second course of tetracycline apparently provoked an explosive outbreak of new lesions in one case (Niedelman, 1953). Conjunctivities or keratitis requires treatment of the lesions on the lid margin. However, spontaneous resolution, sometimes observed clinically, may be the natural fate of the infection (Steffen and Markman, 1980). Individual lesions can resolve as a result of the inflammatory response that

develops if the adjacent dermis is exposed to material from the lesions and this may account for the ease with which the tumours can be cured by any means which disrupt them (Henao and Freeman, 1964).

Histologically the tumour is superficial. The epidermal cells develop intracytoplasmic inclusions as they progress from the basal layer to the surface.

AIM OF THE THESIS

The aim of the present thesis is to review the literature providing a basic and sound information about molluscum contagiosum, a mildly contagious viral disease affecting mainly children, which is now considered among sexually transmitted diseases.

LITERATURE REVIEW

HISTORICAL REVIEW

The term molluscum contagiosum was first coined by Thomas Bateman in 1814 in the 3rd edition of his practical synopsis of cutaneous diseases. He pointed out: "This singular eruption had not been noticed by Dr. Willan and was unknown to myself till after the publication of 2 editions of my synopsis" (Bateman, 1817) However, a clear account of the disease appeared nearly 20 years prior to that time in a notebook belonging to Jenner (1749-1823) **Fig.** 1 (Jenner, 1931). Interestingly these original hand-writing pages are still on display in the library of the Royal College of Physicians in England. However, Jenner was mainly concerned with hydatids in cows and other animals. He knew that these hydatids were caused by parasitic insects, but unfortunately he also applied the name hydatid to a number of other cystic lesions with macroscopically similar contents.

Perhaps Jenner was more inclined than most people to postulate an infective cause for such an eruption (Woods, 1977). Bateman was equally convinced, however, and named the disease accordingly. Most English speaking dermatologists agreed, but on the continent it was not generally recognized as contagious for a long time. Although Hebra (1866) gave an excellent summary in his textbook, elimating cases like that of Tilesius (1793) which were clearly not the same disease, he himself favoured the non-contagious theory. Stelwagon (1895) reviewed the European and American evidence, collected and classified reports concerning

inoculation experiments and came down firmly on the side of contagion, yet some doubt persisted in France even then (Radcliffe-Crocker, 1903). Ehrman (1892) suggested the possibility of the virus being transferred from one person to another by pediculus pubis. Fox (1909) described 7 cases in which operation wounds were infected with molluscum contagiosum.

In 1841 Henderson and Paterson independently described the lesion fluid as "cellular" although the cells they described were probably epidermal cells containing intracytoplasmic inclusions. These inclusions are known as Henderson-Paterson bodies or molluscum bodies, since they were widely presumed to be aetiologic agent for this disease.

The molluscum bodies were thought to be protozoal in nature (Sequeria et al., 1947). The strongyloplasma hominis, described by Lipschütz (1907, 1911), is manifested as spheric particles which are 0.25 micron in diameter, very numerous and nonmotile in fresh preparations. Aggregates of them form acidophilic inclusion bodies within the cytoplasm of infected epithelial cells. Goodpasture and King (1927) confirmed lipschütz's finding, and concurred in his , belief that the bodies are not of nuclear or cytoplasmic origin. Van Rooyen (1938) by the use of intravital stains and microdissection, has been able to remove the so-called molluscum bodies from the cells and replaced them without injury to the cells. He believed that the molluscum body is grown from a more minute form

of the virus and that it is not formed by desiccation or diffusion of any cytoplasmic constituents of the cells; he thus disagrees with the earlier findings of Goodpasture and King (1927).

Several workers in the nineteenth century reported successful transmission of molluscum contagiosum in experiments using unaltered lesion material. Juliusberg established the viral nature of the contagious material in 1905 when he transmitted this disease using a filtrate of molluscum lesion material. Ota and Huang (1934) were unable to transmit the disease from one human being to another. Important experimental work has been done by Wile and Kingery (1919) who successfully reproduced the disease by intracutaneous injections of the sterile filtrate of typical lesions. They concluded that the disease is due to a filtrable virus. Efforts to repeat these experiments have been made in recent years (McFadden et al., 1979), but such inoculation efforts have failed.

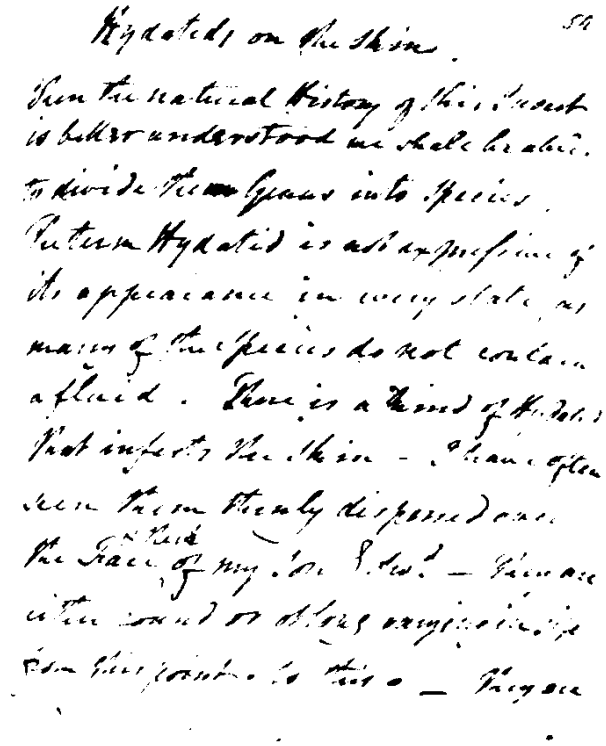

Fig. 1: Notebook of Jenner (1749-1823) (Woods, 1977).