AETIOLOGY OF IDIOPATHIC HYDROCELE OF THE TUNICA VAGINALIS IN EGYPT

T H E S I S

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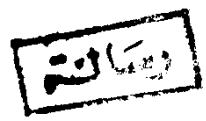

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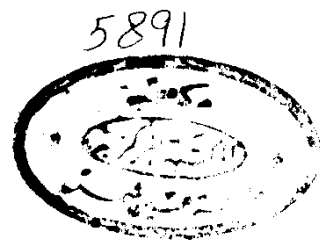

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CHAPTER I

INTRODUCTION

H Y D R O C E L E

This term is applied to a collection of serous fluid within the tunica vaginalis. The vaginal sac around the testis normally contains a few drops of clear, serous fluid; any appreciable increase in amount is called hydrocele.

The tunica vaginalis is a serous sac, originally derived from the peritoneum. It encloses the testis and its adnexae. Like other serous sacs of the body (peritoneum, pleura, pericardium), it has two layers; the visceral and parietal layers.

The gland lies freely in this serous sac lubricated by the secretion of its endothelium. The potential space between these layers may become distended with exudate under certain conditions, when a hydrocele of the tunica vaginalis results.

Hydrocele of the tunica vaginalis may be:

(1) Secondary to some disease of the testis or its adnexae or obstruction to its venous return or as a result of lymphatic obstruction that follows repeated attacks of funiculitis; secondary Hydrocele.

(2) The result of primary irritation of the lining membrane of the sac.

Primary or Idiopathic hydrocele arises spontaneously and its pathogenesis is uncertain. It develops slowly,without

evidence of pre-existing disease of the urogenital tract. It is sometimes attributed to repeated trauma or to low-grade infection.

Idiopathic Hydrocele is a very common disease in Egypt as well as in other tropical and subtropical countries. It is universally distributed between all age groups being relatively uncommon finding in adolescent or young adult males and yet it occurs with considerable frequency in the younger and older gge groups.

Many workers tried to reach to an acceptable cause for the exact aetiology of adult hydrocele. The results were based on hypothesis with no definite proof. Over recent years,however, there have been several accurate descriptions in the medical literature of the abnormalities associated with hydrocele in infancy and childhood and the evidence indicate that in virtually all cases a clearly understandable cause is present.

In Egypt, the most accepted theory for the causation of the disease was that it is the result of the lymphatic obstruction that follows endemic filarial funiculitis.

However, it has been thought that the aetiology is based upon some undiscovered or healed infectious process.

Current surgical text books show considerable variation in their author's opinions on the causation, significance and

treatment [illegible] ess a tunica vaginalis which does not communicate with the peritoneal cavity, and that common laboratory animals have a patent vaginal process, therefore experimental work on hydrocele has been impossible.

I have started my work in the following thesis from the point reached by most of the workers.

That inflammation play a role in the causation of the disease, is the most accepted theory of idiopathic hydrocele. Neither filarial nor bacterial invasion could be detected. Filarial worms are absent from circulation and so no detection to any filarial manifestation in the tissues or tissue fluid concerned. All cultures taken are sterile although the condition is progressively increasing.

There is always imbalance between fluid production and reabsorption. This delay of reabsorption is attributed to insufficiency of the lymphatics and cell damage present in the tunica vaginalis of non specific origin.

I concentrated my work on the hypothesis that the inflammatory reactions present in this disease are due to injury of the antigen-antibody reaction; i.e. one of the auto-immune diseases.

At present [illegible] that auto-immunity as a cause of disease, play a probable mechanism of many diseases previously considered of idiopathic origin.

Cases that show no pathological changes neither in the tunica vaginalis nor in the collecting fluid; transudate, mainly during infancy and childhood proved to be of the communicating type due to persistance of the processus vaginalis with delay of reabsorption of fluid through the vaginal sac.

The evidence to be presented from this study attests not only the positive results I advocate but also the validity of the hypothesis on which it is based.

This thesis has been preached and practised for the past five years and is based upon my personal experience and observation of more than 150 patients of different age groups, all of them presented with painless scrotal swelling with no obvious cause.

This work includes the following study:

- Historical reviews on the pathogenesis of idiopathic hydrocele.
- Embryology, congenital abnormalities and anatomy of the tunica vaginalis.
- Hydrocele fluid; its nature, formation and reabsorption.
- Inflammation and exudate formation with cellular damage.

- Immunity, [illegible] and auto-immune diseases.
- Clinical and surgical observations.
- Biochemical studies on the hydrocele fluid and hydrocele plasma.
- Serological studies on the tunica vaginalis antigen and hydrocele plasma antibodies.
- Pathological studies of hydrocele fluid and sac.
- Treatment of hydrocele.

C H A P T E R I I

REVIEW OF LITERATURE

In 1903, Sudden in Egypt, wrote in his paper on the aetiology of hydrocele; it may be considered rather a reproach that in spite of the extra-ordinary prevalence of hydrocele of the tunica vaginalis in Egypt, so little has been done to solve the vexed question of the aetiology of this condition. So far as I am aware, except a "not proven" statement that hydrocele is always an accompainment of filariasis, no convincing evidence in favour of any one causal condition has yet been adduced. On more than one occasion I have organised a search for filaria among the case of hydrocele, blood from patients being examined sometimes at night and at other times during the day always without success. I also had the hydrocele fluid examined but no filaria was found except in one chylous hydrocele.

One sometimes find filaria in blood of a patient who happens to be suffering from hydrocele but Dr. Hayward who was good enough to make the investigation informs me that he has never beer able to satisfy himself that filariasis is a cause of simple hydrocele of tunica.

In 1904, Castellani in Ceylon, began to investigate the pathogenesis of cellulitis of the spermatic cord and its