

DISSERTATION

on

THE ENDOCRINE FUNCTIONS OF THE OVARY.

By

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With

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Introduction

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General Bibliography.



Investigation of the ovarian function is not of recent origin, early evidences of this line of thought were shown in the days of Hippocrates (Evans)¹.

With the onrush of time investigators became more numerous and work was published in relative profusion.

Autoplastic transplantations of the ovaries was first carried out by Knauer² in 1896. Grigorieff³ in 1897 reported pregnancy in four rabbits from whom the ovaries were removed and subsequently replaced. The following year attention was given to the corpus luteum, Prenant⁴ being the first to suggest that it furnished an internal secretion. This theory was supported by Regaud and Policard⁵ in 1901, and Sandes⁶ in 1903. All this work was done without satisfactory perspective, but Hitschmann and Adler⁷ in 1906 revolutionised the whole situation when they published their work on the endometrial changes during the menstrual cycle; this work being correlated with the original work of Adler^{8,9,10} on the physiology of the ovarian function. After this came ardent scientific investigators such as Frank¹¹, Ancel and Bouin¹², Frankel¹³ and others. These workers cemented the foundations laid for them and upon these foundations all the more recent superstructure has been built.

Villemin¹⁴ provided the greatest advances since the earlier work when he provided a new conception of the ovarian relationship to menstruation. He was the first to indicate that the Graafian follicle ruptures at least twelve days before menstruation, this being a contrecoup to the view of the follicular rupture being coincident with menstruation.

The present work was commenced under the ardent enthusiasm



of Adler in Vienna in 1923. Adler, who is probably the greatest medical gynaecologist and whose work - in conjunction with Hitschmann- produced such a remarkable knowledge of the menstrual cycle, by his enthusiasm created a desire to investigate and learn more of the nature of the hormone basis for diagnosis and treatment in general gynaecological practice, i.e. both surgical and medical.

It is considered that an addition to existing knowledge on the subject is as follows:-

(a) The blood calcium changes in the menstrual cycle and in pregnancy.

(b) Some evidence for the complex nature of the endocrine balance in the menstrual cycle and pregnancy as evidenced by metabolic changes and clinical pharmacology of adrenalin and pituitrin. (The results are, of necessity, incomplete, since a vast amount of work will be necessary to establish the final causes).

(c) Clinical contribution to the evidence existing for luteal relationship to the menstrual cycle and pregnancy.

(d) Basal metabolic variation in the menstrual cycle and in pregnancy.

The material for this thesis has been collected during the past five years, and it is particularly emphasised that its present presentation does not imply its completion, since it is proposed to continue the investigations for some considerable time.

It was considered, however, that its interim presentation would serve as the basis for a thesis for the degree of M.D.

The major portion of this work was done in the departments of Physiology and Biochemistry, and when these departments were divided, the work was continued in the department of Physiology and Pharmacology in the University of Adelaide.