

tion occurs throughout the entire group. In the flustræ, as well as in several other genera, the ova are quite distinct, and Dr. Arthur Farre has observed spermazootic cercariæ in almost every part of the interior of the body. Therefore gemmation, and the existence of male and female organs of generation, are shown to exist throughout the whole of the polypi, and in some few, fissiparous reproduction also occurs.

CONTRIBUTIONS

TO THE

HISTORY OF THE CORPUS LUTEUM, HUMAN AND COMPARATIVE,

BY

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Corresponding Member of the French Academy of Medicine, Feb. 1840.

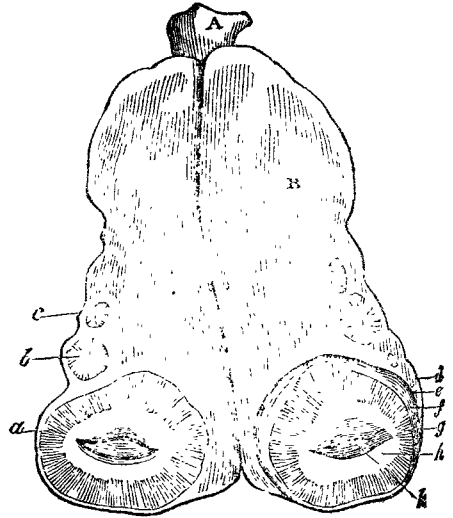
PART I.

THE following brief history of facts and opinions respecting the *corpus luteum*, and the circumstances attending its origin, development or growth and decay, was commenced some years ago on the occasion of my receiving from an esteemed friend the human uterus and its appendages, which seemed to me to throw considerable light on the obscure history of this interesting body. Shortly after I had examined the uterus in question a very valuable work touching on this matter appeared from the pen of Dr. Montgomery, and this was soon afterwards followed by a "Memoir" on the structure of the corpus luteum, to which is attached the name of one of the most accurate and talented observers of the present day.* As I found it impossible to arrange the facts I had observed, so as to suit the theoretical views supported by these gentlemen, I have thought it might be agreeable to the readers of THE LANCET, and to physiologists generally, to publish in its columns the observations themselves, nearly as they stand in my note-book.

I much fear that all the labour desirable may not have been bestowed on the following memoir, and that contradictory opinions are supported, which, however, on being pointed out, I shall be the first to acknowledge; but I foresee that unless availing myself of the few days of leisure afforded by the Christmas holidays, the publication of these notes may be put off indefinitely.

In the month of March, 1835, the gravid uterus of a most respectable woman, who died suddenly of perforation of the stomach, was put into my hands. Mrs. B.—, the

lady in question, was about 32 years of age, and at the period of her death had been married only four months, and, therefore, it is to be presumed that the foetus found in the uterus after death was a foetus between the third and fourth month; the size of the foetus is itself a satisfactory evidence in support of this fact. The dissection of the uterus was made with great care; it was perfectly healthy, and evidently performing all its functions in the most satisfactory manner; the parts were preserved for the museum with the foetus enclosed within the amnios, otherwise we should have here added its measurement, weight, &c.



Description of Fig. 1.

Right ovary section along the free margin of the organ, dividing nearly to its base or fixed margin.

A proper ligament of the ovary.

B cut surface of the ovary.

c section of a *corpus luteum* at between the third and fourth month of pregnancy.

b section of another body resembling a, in miniature.

c section of a third body still smaller than but resembling the two former.

d external cut margin of the ovary.

e cut surface of the stroma of the ovary.

f cavity out of which the corpus luteum has been partially dissected.

g plicated yellow body.

h white albuminous-looking substance in the interior of the yellow body.

k fold traversing the centre of the corpus luteum.

On the surface of the right ovary*

* R. Lee, M.D., F.R.S., "Med. Chirurg. Trans.," vol. xxii., p. 329.

* This ovary weighed 128 grs.; greatest length, 2 inches 9 lines; greatest depth over the corpus luteum, 10 lines, and its thickness here equalled 8 lines. The ovary of a woman, aged 30, who had had a family, and died in full health, weighs 65 grs., being little more than one-half that of the ovary

was observed several short fissures or grooves, and towards its distal part a general fulness, immediately over which there existed a well-marked fissure. These facts led to the belief that it contained a corpus luteum, and, accordingly, on dividing the ovarium along its free margin, in the axis of its greatest length, but avoiding the fissure above alluded to, the appearances as seen in the engraving, figure 1, presented themselves. *a*, marks the large corpus luteum which the knife had bisected longitudinally, and above this corpus luteum two other bodies, marked *b c*, precisely resembling the first in miniature, presenting really no other discernible differences but that of size. On the exterior of this ovarium, as we have already remarked, there are several fissures, and it is just possible that there may exist other small bodies besides those marked *b c*, but it was deemed unadvisable further to bisect the preparation. No Graafian vesicles were observable, either on the external or cut surfaces of the ovary.

In the left ovarium* a similar section in the long axis of the organ displayed a single corpus luteum, about one-third the size of that marked *a*, fig. 1; and in this ovarium (the left) may be readily observed numerous vesicles (Graafian?).

The dissection of these ovaria was then unavoidably delayed, and the preparations were deposited in alcohol, in which they remained for a considerable time, before another opportunity occurred of returning to their examination. The careful and deliberate scientific examination was resumed, partly with the view of verifying the above brief description, but chiefly to examine with more care into the intimate structure of the largest of these bodies (marked *a*, fig. 1). Upon the right segment the corpus luteum was dissected, and turned partially out of its position in connection with the substance of the ovarium; a loose cellular texture, with numerous vessels, was found to be the only connecting medium between the *plicated yellow body* and the stroma of the ovary, and this delicate cellular texture was the only structure investing the exterior of the yellow body in the shape of a *capsule*. This investing cellular texture sent numerous processes into the yellow body like partitions, and evidently giving rise to that plicated appearance which the section presents. Moreover, the substance of the yellow

body admitted of being separated with great ease from its investing cellular tissue, and when so divested presenting the strongest possible resemblance to a gland. We have already mentioned that the ovaria had both been divided in the long axis, the section having apparently intersected the entire structure of the large *corpus luteum* (marked *a*, fig. 1). Of the characteristic plicated yellow part, marked *g*, we need say nothing further at present; it encloses on each section a smooth, dull white, membranous-looking structure, marked *h* in the figure, which seems to send processes outwards into the plicated yellow body, and to the inner surface of which it everywhere adheres intimately; lastly, quite in the centre of this there runs a fold marked *k*, elevated from the surface, and presenting the appearance of lateral branches; the centre and the fold itself being again, so far as we are able to observe, strictly analogous to, if not positively a portion of, the yellow plicated body. To this fold Dr. Montgomery and others (*if we understand their descriptions*) have given the name of *cicatrix*, but to which it does not bear the slightest resemblance, and in no shape can be called a *cicatrix*. The fold occupies the centre of a structure, which seems to be, and as we are indeed quite satisfied it is, nothing but the plicated yellow body itself, as if the whole albuminous-looking membrane or substance (*h*), which the knife had evidently bisected, either did not occupy the very centre of the plicated yellow body, or was so thin as to have exposed, by the section, a portion of the yellow plicated body itself. The object of this first part of our contributions not being in any shape critical in respect to the observations of others, I shall here avoid all remarks of that nature, but shall only observe that they seem altogether at variance with what has been said about "*fibrinous deposits, cavities filled with blood, and cicatrices*" as indicating true corpora lutea from false," &c. Before quitting this ovarium I shall now describe the other appearances which the section presents, and which appearances have been usually described under the name of *false corpora lutea*. *b*, fig. 1, presents all the appearances of the large corpus luteum, marked *a*, but in miniature; the absence of the fold seems attributable to the comparative smallness of the body bisected; *c* resembles, upon one segment, *a* in miniature, but, upon the opposite section, the plicated yellow structure scarcely surrounds the whole of the white albuminous centre, in the midst of which there is a very obvious cavity, containing what appears to be a small quantity of grumous blood. How far these appearances, as we have described them, are reconcilable with the opinions and theories of late writers, and which of these are *true corpora lutea*, and which *false*, or, to use a more precise language, *from which*

delineated in our plate. It may be observed that the ovarium weighing 65 grs. presents two very distinct Graafian vesicles, but no remains even of corpora lutea. The preparation is preserved in our private museum.

* This ovarium weighed 112 grs., or 16 grs. less than the right; its greatest length is 1 inch 9 lines; depth near distal end, 9 lines; breadth near distal end, 6 lines.

of these bodies sprung the fruitful ovum? are questions which we shall endeavour to discuss on their simple merits, without mixing up either our own theories or those of others, in the third part of these contributions; they may, indeed, be considered as purely theoretical questions, there being no inquiries before the public adequate to their solution.

The left ovary, which had also been bisected in its long axis, and along its free margin, presents a well-marked plicated yellow body, with its albuminous centre; the absence of the central fold I am inclined to attribute to the comparative smallness of this body, although, in all other respects, there is really no difference in its structure from the large one marked *a* in fig. 1.

The second case to which I shall allude is that of a lady, who died two days after delivery at the full term. In one ovary was found a *corpus luteum* rather more than one-half the size of the largest described in fig. 1; the remains of two miniature *corpora lutea* were also distinctly observable, and one pretty large cyst, with several smaller cysts, but these latter I considered pathological. Previous to the last child the lady had been delivered of several others at the full period.

I examined, with Dr. William Campbell, Lecturer on Midwifery in Edinburgh, the uterus (which had been several years in alcohol) of a person who had died in the fourth month of her pregnancy; the right ovary* upon being mesially bisected in its long axis, presented a *corpus luteum* about 9 lines long, and 7 lines broad; there was also a central cavity about 3 lines long, and of the same breadth, but instead of occupying precisely the centre it was within less than a line of the surface of the ovary, with a corresponding decrease in the thickness of the plicated yellow texture around it.

The left ovary, when cut into, showed first a cavity similar in position and size to that just described in the right ovary; a blueish-white substance surrounded it, but no yellow plicated texture. In another part of the same organ is a cavity, close to the outer tunic, which, with the membranes enclosing it, resembles a Graafian vesicle, beneath which, and in immediate contact with it, is a sac much resembling the central cavity of a Graafian vesicle, surrounded for about two-thirds of its circumference by a structure, proving the whole, in our opinion, to be the remains of a fruitful Graafian vesicle, and the remains of a *corpus luteum*.

I may now briefly mention, that by the kindness of my medical friends in town I have had every opportunity of examining the

corpora lutea in six cases of persons dead of acute diseases, and thus I have been able to observe the condition of the recent ovaria at almost every stage of pregnancy, from a period so early that an ovum could not be detected in the uterus, although the decidua was present, up to the full term, and likewise after delivery, from a period of two days to about six months.

Now, without troubling the reader with the details of these cases, I may here remark that the impression left on my mind was, that, co-existing with conception in the human female, there would be found a *corpus luteum* of considerable magnitude, but whether this *corpus luteum* was the effect or cause of conception, had not been determined. That the size of the body generally supposed to be the one from which the foetus in the womb has proceeded, had not been determined, as to its different periods, with accuracy, but that upon the whole it seemed to have a rapid growth; that the periods of decay of this body, and the changes it undergoes, had not been described in such a way as to entitle the observations to be held as facts either by the physiologist or medical jurist; and that, lastly, the whole question of those miniature *corpora lutea* found in the ovaries of women, under a variety of circumstances, was one accompanied with the greatest difficulties, in solving which neither physiological nor obstetrical works, hitherto published, afford adequate data. Indeed, it seemed to me that the only practical conclusion which could be drawn from a careful examination of the whole facts and opinions to which I had access, was, that co-existing with a foetus in the uterus, there would always be found a body of some magnitude, and of the distinctive characters of a *corpus luteum*; but that this conclusion would scarcely prove of any utility to the physiologist or medical jurist, in consequence of the numerous difficulties which beset the whole subject of its formation, development, and decay; and if this be true in respect to the single *corpus luteum*, which, from its size and regular character, the anatomist would be disposed to call the true one, that is, the one from which the fetus in the uterus at the time had come, every practical anatomist knows that the difficulties are immeasurably greater when a number of such bodies are found in the ovaria of the same person scarcely differing from the so-named true one, in any circumstance, but that of size, and sometimes (as we shall afterwards show) not even in that.

In concluding our Part I., it may be useful to draw the attention of the reader to the difficult questions which arise out of a single case. These difficulties have not been observed merely of late years; they were clearly apprehended by Santerini, Morgagni, Hunter, and others; Haller also had

* This ovary measured 1 inch 8 lines in length, and 9 lines in breadth; its weight was not ascertained.

given them much of his attention. A detailed history of the views of these great men would be useful to the physiologist; but I shall here allude only to the opinions of Hunter. And as I propose discussing these views at greater length, I shall here advert to them very briefly. Sir E. Home states in the preface to his work on "Comparative Anatomy," that this work, though published under his name, may be considered merely as a descriptive catalogue of Hunter's "Museum." I presume, therefore, that it contains the most of Hunter's opinions; but if any doubt had remained on this point, such doubt was entirely removed by Mr. Clift's evidence before the Committee of the House of Commons, who added, that besides being a descriptive catalogue of Mr. Hunter's "Museum," the greater part, or nearly the whole of the text of Sir E. Home's "Lectures on Comparative Anatomy," were merely extracts from the MSS. of Mr. Hunter, which MSS. Sir E. Home afterwards burned; and that these extracts, or lectures, or by whatever other name they may be called, did most unquestionably contain by far the greater part of Mr. Hunter's theoretical opinions on most physiological subjects.

Since these facts are so, I hope I may venture to draw the following conclusion, viz., that the lecture on Generation, contained in Sir E. Home's work on "Comparative Anatomy," may be viewed as a memoir compounded of copious extracts from Mr. Hunter's MSS., and of a few hasty observations by Sir E. Home himself, interpolated with but little art amongst Mr. Hunter's observations and theories.

Now, judging of Case I., detailed in the commencement of these Contributions, and applying his theory to it, conclusions directly opposed to the ones generally received would be arrived at: for, *First*, The largest corpus luteum found in the right ovarium, would have been viewed by Mr. Hunter, *not* as the one from which had come the fruitful ovum found in the uterus after the death of the patient, but rather as the one from which was to come the next foetus, had the lady lived, and become again pregnant. *Secondly*, The smaller corpora lutea (marked *b c* in the same drawing) would have been viewed by Mr. Hunter as appertaining, the one to the foetus then existing in the uterus, and the other as one from which no fruitful ovum had ever come. The left ovary also contained a well-marked and distinct corpus luteum. *Thirdly*, We are warranted, I think, in inferring, from the same work by Sir E., that Mr. Hunter viewed the corpus luteum as a body whose production and growth were altogether *independent* of any connection with the male,—that its function is to form or secrete the ovarian ovules, and that these are formed by, and will be found in virgin

ovaria of all mammals.* But, from the imperfect notices of Sir E. Home, I cannot be quite certain whether Mr. Hunter thought that corpora lutea formed in females that had not only no connection with, but that had never even seen the male. These theoretical views, for they are strictly so, it is my intention to examine in Part III. of these Contributions.

MALFORMATION OF THE GENITAL ORGANS.

To the Editor of THE LANCET.

SIR:—If you think the following cases will be at all interesting to your numerous readers, they are very much at your service. I am, Sir, your obedient servant,

SAMUEL ARGENT.

Hinckley, April 27, 1840.

John Purser, six years of age, a chubby-faced and healthy-looking child, has malformation of the genital organs. The umbilical chord was not attached to the central part of the abdomen as usual, but immediately above the pubis, from which part there projects a tumour of about the size of a pullet's egg, having a raw and bleeding surface. It may be emptied, by pressure, of its contents, which communicate with the cavity of the abdomen. Immediately below the tumour, or swelling, is the representative of the penis, a flat substance, about a quarter of an inch in length, the point being somewhat rounded like a glaus. This part is attached by a frænum to a similarly-formed substance, which appears to be an improperly developed prepuce; there is no urethra. Underneath this rudimentary penis are distinctly marked upon the skin the rugæ and raphé of the scrotum, and the testes may be felt within the integuments. On each side of the part resembling the penis is a small opening, through which the urine is constantly dribbling; probably these are the terminations of the ureters, and there is no bladder. In addition to this unfortunate state, the child is afflicted with a prolapsus of the rectum to the extent of four inches.

CASTRATION SUCCESSFULLY PERFORMED BY A PATIENT.

Thomas Aldridge, aged thirty-five years, formerly servant to a military surgeon, ap-

* We cannot perceive that Mr. Hunter includes the human species. We are of opinion that great and important differences exist between the human structure and that of the lower animals, and which we shall endeavour to show in Part II. of these Contributions.