

space." With regard to the question, whether these ova have three membranes (Keber), or two (Bischoff), Dr Webb informs me that he tried the effects of maceration for some hours in water, under a covering of thin glass; after which he observed blisters, with a rounded outline, upon the outer surface of the ovum, leaving with him no doubt of the reality of what is maintained by Keber—the presence of *three* membranes.

My health at length permitting it, I have since examined ova of the river Mussel, day after day, for weeks. The result is, that to Dr Webb's confirmation of Keber's discovery I am enabled to add my own. The remarkable body believed by Keber to be the spermatozoon of this animal does penetrate into the interior of the ovum by a funnel-shaped canal. I have seen it in various stages of penetration; it enters into the yelk; and it therein divides into many parts.

I have since found it so extremely easy to demonstrate this discovery of Keber to others, that I am astonished at its having been denied. That Bischoff's denial, however, has not met with universal confidence in Germany, is shown by the very recent work of Carl Vogt,¹ who not only considers the penetration of the spermatozoon into the ovum of animals in general as an established fact, but also declares his opinion, that "the denial so sweepingly pronounced by Bischoff will by and by dissolve into perfect acquiescence." I certainly should have no reason to be surprised at such a change, seeing that Bischoff, after having written that he would "ever combat the erroneous statements of Barry," that the spermatozoon really penetrates into the interior of the ovum of the Rabbit—in about four months, was compelled to acknowledge that Barry, after all, was right, and Bischoff wrong.

ARTICLE VI.—*Case of Secondary or Blighted Fœtus at the third month, with Fatty Degeneration of the Membranes, Retained and Expelled with its Living Co-twin at the eighth month of Utero Gestation.* By JAMES G. WILSON, M.D., Fellow of the Faculty of Physicians and Surgeons, Glasgow.

(Read before the Glasgow Medical Society.)

THE following case, which I beg to submit to the consideration of the society, is, I venture to say, one of a very important, interesting, and uncommon kind. The subject is one illustrative of many instructive points in intra-uterine pathology, and likewise suggestive of several reflections bearing upon medical jurisprudence. Without occupying the time of the society with any further introductory observations, I shall at once proceed in the briefest possible manner to relate the history of the case, and conclude with a few remarks.

¹ Physiologische Briefe, dritte Abtheilung, Zweite Auflage, 1854. SS. 480, 675.

Mrs T., aged 32, a strong healthy and masculine looking woman, was, on the 21st November last, after a short and easy labour, delivered of a living female child. It presented with the breech in the right anterior dorsal position, and weighed $5\frac{1}{4}$ lbs., which, from appearance as well as from the mother's statement, indicated its age to be about the eighth month. The placenta was expelled entire in about the usual time. Patient states that five years ago she gave birth to twins, both boys, alive and at the full time, and that, with the exception of the present, she has had no children or abortion since. Her catamenia were regular during the interval, and she menstruated for the last time about the beginning of March. When three months or thereby advanced in her present pregnancy she had twice in succession a considerable sanguineous discharge per vaginam, accompanied with slight uterine pains. She, however, paid little attention to these symptoms at the time, as they did not occasion any anxiety or alarm.

The placenta, on examination, seemed generally healthy, with the exception of a few small indurated points of a tubercular character scattered over various parts of its extent. Towards the margin of the placenta there was found a small foetus closely enveloped in a yellowish fatty-like mass, which lay in a groove or sulcus formed in the placenta by the overlapping or bulging over of a portion of its foetal surface. The whole was connected together by a prolongation of the placental substance into the inner border of the investing membranes of this small foetus. The bond of attachment was by a spot not larger than a shilling, which was very slender, and separated in two places. The fatty-like mass, when opened up, was of an irregular circular form, measuring 8 inches in circumference, and was of the thickness of ordinary plate glass. It appears to be a homogeneous mass on cutting into it, and of a uniform density and consistency throughout. On subjecting a portion of it to microscopic examination it is found to consist of a fibrinous or lymph substance with numerous oil globules intermixed. It is soluble to some extent in ether. There was no appearance of liquor amnii. The foetus appears to be about the third month—is very much flattened out and disfigured, having a white exsanguine look, with no traces of incipient putrefaction. It measures $4\frac{1}{2}$ inches in length. The right arm is to some extent malformed and displaced; the humerus, with its atrophied muscles, is completely incorporated with the side of the head, while the forearm is altogether above the head, and appears as if originating from it. In consequence of the pressure to which the foetus has been subjected a large portion of the bowels protrude. The sex of the child cannot be ascertained. Proceeding from the foetus is a small thready or filiform umbilical cord $2\frac{1}{4}$ inches long with the spiral convolutions formed by its vessels in great part obliterated. It is inserted into a spongy cellular substance (about the size of half a crown), much resembling placental tissue, situated at the inner border of this mass of fat, and which seemed to be the point of union with the placenta of the living child above referred to. There is, however, no distinct line of division observed between these two textures, as the one passes gradually and imperceptibly into the other. On the supposition that this substance, to which the cord was attached, was the placenta of the foetus, the formation of the peculiar groove in which the whole was embedded may be thus explained. The two placenta appear to have been originally united by their edges, the lesser one having ceased to enlarge, the other one gradually extended in circumference, till ultimately a flap-like portion, developed from its foetal surface, covered in the other along with the foetus. The relative position, however, of the double set of membranes, in consequence of some accidental laceration either during or after the expulsion of the placenta, could not be accurately ascertained. It is impossible to tell, on inspecting the preparation, what uterine attachment the blighted foetus, through the medium of its placenta, originally possessed.

There can be no doubt, I think, but this was primarily a case of twin conception, while one was blighted at or near the third month, and the other carried to the eighth, when both were nearly simul-

taneously expelled from the uterus. I dismiss, therefore, altogether the idea of conception subsequent to that of the living child. For the elucidation of this subject we need not have recourse to the absurd, and nearly exploded theory, of superfœtation. The problem can be otherwise satisfactorily explained, by supposing the blighted fœtus, as I have already stated, to be the product of a conception coeval with that of the living child. - One peculiarity in this case is the retention of a dead fœtus *in utero* for such a length of time, and its ejection a few minutes after the birth of the living child; yet when the placentæ are united in a twin gestation, it is difficult to conceive how one fœtus could be discharged without the expulsion of both. Were the symptoms of threatened abortion, already noticed, an attempt of nature to throw off and get rid of the dead child? or had they any thing to do with its death, or were they the cause or the result of the partial separation that was afterwards found to exist between the two placentæ. Whatever view may be taken of these points, one thing seems evident, viz., that the symptoms of miscarriage closely correspond with that supposed period of utero-gestation at which the blighted fœtus had arrived.

The intra-uterine death of the child may take place at any period, and is usually ascribed, either to some maternal emotion, accident, or disease, or to some organic disease, or structural defect in the fœtus itself, or its placenta. Several of these, for anything that is known to the contrary, may have contributed, indirectly, in producing the fatal result, yet I am inclined to think that the principal or immediate cause of the child's death was the diseased state of its investing membranes, and consequently that the state of the membranes was not the result of some post-vital change. The morbid condition of the membranes would not permit the necessary amount of yielding and stretching, and would consequently tend to retard and arrest the growth and development of the fœtus, and ultimately deprive it of vitality. It may be said, and it is quite possible to conceive that the cord would, under these circumstances, be necessarily exposed to much pressure, having been, it may be supposed, very early deprived of the protecting agency of the liquor amnii. The question naturally suggests itself, when, where, and by what means was this fatty-like mass deposited? I have already stated my belief, that this abnormal product was not the effect or result of some post-mortem change. From its position and general appearances, I was inclined, at first view, to believe that it consisted principally of the placenta in a state of fatty degeneration. Subsequent examination, however, convinced me that the supposed placenta (unless hypertrophied) was quite disproportionate to the dimensions of the fœtus; and, moreover, the almost glossy smoothness which both surfaces of the mass presented—the doubling up of the mass itself upon the child, and the position of the cord seem to oppose and subvert this view. These circumstances being considered, it becomes more probable that the adipose mass is

deposited between the amnion and chorion, and the product of some morbid condition of one or other, or both. The subject, therefore, resolves itself into the vascularity or non-vascularity of these membranes,—a point which has been long disputed, both by physiologists and pathologists. Although the human amnion and chorion, in their healthy and extended state, possess no blood-vessels, visible either to the naked eye, or by means of the microscope, or by artificial injection, yet the following facts and circumstances suffice to place the vascularity of these membranes beyond the shadow of a doubt. Tubercular, sarcomatous, and other abnormal deposits, have occasionally, though rarely, been found between the amnion and chorion, or between the laminae of the latter, proving that they must have been developed from blood vessels. The membranes themselves have, in a few instances, been found in a congestive and inflammatory condition (amnio-chorionitis), and also in an opaque and thickened state.¹ The foetal membranes have been observed to be of a decidedly yellowish tinge when the mother was labouring under jaundice at the period of delivery.² Again, one or two cases are recorded where the umbilical cord of the human embryo had been actually inserted into the amnion, showing that the foetus must have derived its nutrient supply of blood principally, if not altogether, from that source.³ Comparative anatomists have demonstrated, that in some of the mammalia the vascularity of these membranes may be rendered quite evident by artificial injection. The villi of the chorion, at an early period of embryonic existence, and the great secreting power which the amnion is known to possess, may also serve to confirm and corroborate these statements. The state of the membranes is doubtless one of the most interesting and peculiar features in the case just detailed. Although fatty degeneration of the placenta, and placental diseases in general, are by no means very uncommon, yet I have reason to believe that disease of the membranes, particularly from fatty deposit, is exceedingly rare. Would the death of the child, in the manner supposed, prevent, impede, or in any way affect the growth of its placenta? Seeing that the placenta, when first examined, was free from all appearance of disease, and was in a position not so likely to be interfered with as the foetus, I think there is every probability that it would—in the same manner as a limb becomes atrophied from disuse, and in the same way as the uterus, containing a single foetus, ceases to enlarge with its death—so the congeries of vessels composing the placenta when their circulation had become arrested and unnecessary for the nutrition of the child, would also cease to enlarge. The cause of the collapsed and

¹ See Granville's *Graphic Illustrations of Abortion*, etc.

² Hardy and M'Lintock, p. 52.

³ There is a preparation of this kind in the museum of the College of Surgeons, London. An analogous case is recorded by M. Lamestre. *Archives Générales de Médecine*, June 1848.

profile appearances which these blighted or secondary fœtuses generally present, is for the most part mechanical in its nature. When the liquor amnii has become discharged, and the dead fœtus having lost all power of resistance, it is quite natural to suppose this flattening to be the result of continuous and increasing compression between the uterine parietes on the one hand, and the progressive development of the living child on the other. It may at first sight appear difficult to conceive why a fœtus that is early blighted and long retained *in utero*, should continue so fresh and free from the putrefactive process. This remarkable immunity from decay in such a case is usually ascribed to the exclusion of, or non-exposure to, the external air. The fact that new-born children are not unfrequently found in a more or less putrid state, (even when the membranes are un-ruptured, and consequently preventing the access of atmospheric air), seem to militate against this explanation. In reference to this subject, Ramsbotham says, "That it perhaps may be accounted for by the powerful vital principle, which is resident in the gravid uterus, and which is in fervid operation for the purpose of bringing to perfection the living being it contains, protecting the dead mass from the ordinary changes of decay."¹ It appears to me that this very process of flattening may prove of itself a preservative cause, in consequence of which the moisture of the fœtus will be gradually squeezed out, so to speak, just as is the case with dried plants. Cases of twins in which one becomes blighted, may terminate in several ways, just as we have seen that their death may result from different causes and occur at various times. Instances are sometimes, though rarely met with, in which one fœtus is blighted and aborted at once, while the other is retained and carried to the full time. Again the blighted fœtus may be retained for a considerable period subsequent to death, and be expelled either some time before, or contemporaneously with the other at any stage of utero-gestation. There is another variety still in which the blighted fœtus is retained for an indefinite period after the birth of its living twin-brother. Of course the longer the blighted fœtus is retained with its fellow, the more interesting and remarkable, *cæteris paribus*, does the case become.

The cases recorded by Ruysch, Maurcieau, Smellie, Denman, Ramsbotham, Montgomery, Rankine, and Siebold, illustrate one or other of these varieties, and although some of them are in many respects analogous to the one I have detailed, yet they differ from it in several essential particulars. Now it does not require much discrimination to see how at first sight one or other of these varieties may create unjust suspicion and reproach on the character of the patient, and excite unmerited censure on the attending practitioner for supposed ignorance and neglect. When one fœtus is blighted and aborted, it is no easy matter to diagnose the existence of a second *in*

¹ Principles of Obstetric Medicine and Surgery, p. 509.

utero; and it becomes equally difficult when the living child is first expelled to detect the presence of its blighted twin. These cases are fortunately, however, of rare occurrence.

Part Second.

REVIEWS.

DR WALSH. *On Diseases of the Lungs and Heart.* 2d Edition 1854. Small 8vo, pp. 797.

DR HUGHES' *Clinical Introduction to the Practice of Auscultation, etc.* 2d Edition. 1854. Small 8vo, pp. 302.

DR WEBER. *On Auscultation and Percussion.* Translated by Dr Cockle. 1854. 8vo, pp. 137.

DR HERBERT DAVIES' *Lectures on the Physical Diagnosis of the Diseases of the Lungs and Heart, etc.* 2d Ed. 1854. Small 8vo, pp. 364.

DR HUGHES BENNETT'S *Introduction to Clinical Medicine.* 2d Ed. Foolscap 8vo, pp. 134.

AN extraordinary impulse has been given of recent years to that branch of physical diagnosis which has for its object the detection of internal thoracic and abdominal diseases. No medical subject has of late been more extensively handled by our contemporaries. The list of works at the head of this article serves to illustrate this statement, and yet it seems only yesterday since physicians in high places positively ignored the stethoscope, stamped it as an improper novelty, and treated its revelations as untrue, and useless, and superfluous. Now, however, it has come to pass that we are disputing, not about the use of auscultation, not fighting to give the thing a local standing and a name in the domain of medical science, but disputing upon some of the finer shades and phases of one particular item in the long catalogue of facts which are included under the head of auscultation!

Yes! men are disputing, and auscultation has its schools! We are told of a German, and we hear of a French school; Laennec rules here, and his commentator Skoda there. The collision of opinions has taken place, and we cannot doubt that the end of the conflict will be more perfect methods in this branch of physical diagnosis, and clearer conceptions of the real value of physical signs.

This history of the stethoscope, had we time to indulge in a moment of reflection, might teach us a few useful lessons, which could, perchance, find their application at the present hour. When shall we learn to acknowledge, *to a purpose*, that dogmatism in