

Abortion, with tardy expulsion of an undecomposed fœtus.
By ISAAC G. PORTER, M. D., of New London, Connecticut.

An article in a late No. of the *Medico-Chirurgical Review*, on the "Signs of Pregnancy," has the following query: "How does atmospheric air get at blood confined within the uterus? We believe there is a medico-legal question now pending—perhaps decided—respecting the putrefaction, or supposed putrefaction, of the dead fœtus in utero. Does the fœtus become decomposed in utero when deprived of life?" The following case, which has occurred within a few months, is in point, and may be interesting both to the medical jurist and to the obstetrical practitioner.

Mrs. ——— had proceeded to the fourth or fifth month of pregnancy, without experiencing any unusual circumstance. The signs of quickening, however, though anxiously expected, did not appear. With this exception, and the occurrence of severe dropsical symptoms, the other signs of pregnancy continued undiminished for another month. At this time the size of the abdomen began gradually to diminish, and at the eighth and ninth months was scarcely more prominent than ordinary. Still, a foreign body could, at times, be perceived through the parietes of the abdomen and uterus. The breasts also were distended, and there were occasional oozings of milk, though after the beginning of the ninth month, there was an evident diminution in the size and fulness of the former, and an almost entire interruption to the flow of the latter. The general health remained perfectly good. At the close of the ordinary period of utero-gestation, without pain, or any uncommon efforts, the distended membranes were found slightly protruding from the vagina—pains resembling cramp succeeded, and subsequently alarming hæmorrhage. Enveloped in the unbroken membranes, was a fœtus apparently of five

months, which, upon delivery, was found free from any marks of decomposition. The placenta, which followed spontaneously, was in a morbid condition, being larger than ordinary, and resembling in form and consistence a sarcomatous tumour. At the usual period after delivery, milk was secreted in large quantity, and recovery was rapid and complete.

It is maintained by most respectable writers on medical jurisprudence, that decomposition and expulsion of the fœtus must speedily follow the extinction of the vital principle. Beck, in discussing the point when life commences, has these words: "The fœtus, previous to quickening, must be either dead or alive. Now, that it is not the former, is most evident, from neither decomposition nor putrefaction having taken place, which would be the inevitable consequence of an extinction of the vital principle. To say that the connexion with the mother prevents this, is wholly untenable—facts are opposed to it." Cases may arise when it is important that an opposite opinion should prevail, especially as it seems founded in truth. To the physician also, consulted as to the existence of pregnancy, a knowledge of cases like the present may be valuable.

According to the principles of chemistry, air, moisture, and a certain range of temperature, are essential to putrefaction. If this be strictly true, we need be in no doubt how to account for the apparent anomaly in the present instance; for so long as the membranes remain entire, atmospheric air can find no entrance to the fœtus in utero. Should we be asked for proof that it will not produce its appropriate effects, acting through the fœtal membranes, in the same manner as venous blood is decarbonized in the lungs, or when exposed in a moistened bladder to a jar of oxygen, we would reply, that it is incumbent on the objector to show the permeability of such membranes to atmospheric air, and would ask in rejoinder, why were not those effects produced in the present instance?

But it may be said, that the elements entering into the chemical composition of the fœtus, may be so arranged as that they shall, when life becomes extinct, mutually attract each other, and thus decomposition be effected without any extrinsic influence. It is granted that this tendency to spontaneous putrefaction exists in certain combinations, and varies with the relative proportion of certain constituents; it being particularly strong whenever oxygen and hydrogen exist in the proportions to form water. But this is far from being true of the elements of gelatine and albumen, proximate principles of which the young of all animals are chiefly composed; and it is

well known how little in their concrete state these articles are disposed to putrefaction.

Two objections to this view of the case may arise. One is, that the foetus was actually expelled, soon after life became extinct, an error having occurred as to the existence of pregnancy: and the other—that, owing to the morbid condition of the placenta, its functions were so much weakened, that although sufficient to prolong vital action in the foetus, yet it was inadequate to its customary nutrition and growth.

In answer to the first, it is sufficient to say, that, supposing the objection well founded, all the legitimate signs of pregnancy existed before the condition had actually occurred, and, during its existence, were constantly diminishing. In reply to the second, it may be said that every appearance of the foetus would contradict such an opinion, it resembling in every respect the description applied by the authorities to one of five months, and confirmed by the writer's experience.

It may be mentioned, as a striking coincidence, that eight cases of abortion have come to the knowledge of the writer, which occurred during the month within which the death of the foetus, in the case detailed, is supposed to have taken place, and all in this immediate neighbourhood. In these cases there was incipient putrefaction at the time the foetus was expelled. The influence of atmospheric changes in producing abortion, has been noticed since the age of Hippocrates, who affirms that "a warm winter, accompanied with rains and south winds, and succeeded by a cold and dry spring, causes abortions very readily in those females who are to be delivered in the spring." While the unusual severity of the past winter will not enable us fully to confirm these observations, there are, doubtless, peculiar seasons when, from certain unknown causes, the death of the foetus occurs as if by an epidemic.*

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