

who have acknowledged to having had no clinical experience in such cases. They mention and dismiss them with slight consideration. In the Dublin Lying-in Hospital but one such case is mentioned in an experience of 156,000 deliveries. At Guy's Hospital, in London, 22,498 consecutive labors happened with only three of this form of hemorrhage. Madame Boivin and Madame Lachapelle, who could unitedly lay claim to 42,000 labors, and who were acknowledged to be close observers, denied the possibility of this complication. Velpeau more recently expressed his strong scepticism. He said: "How, indeed, can we consider that the blood which escapes from the uterine vessels in somewhat considerable quantities is capable of dilating beyond measure, and almost instantly, the cavity of the wound, instead of running between the gestative organ and its contents, so as to escape outwards, or of rupturing the membranes and becoming effused within their cavity?" I can conceive it possible, and know too well that it takes place.

Prior to 1860, according to the researches of Dr. Goodell (whom I may thank for a good deal of my information on this subject), there were only twenty-two published cases of this form of hemorrhage. In 1869, however, he reports one hundred and six cases. Doubtless, just as many cases happened in former years, but they were either unrecognized or unreported. On looking up the literature of the subject, I find authentic reports of innumerable cases, many of them being of extreme interest, as we know not the moment when such may fall to our lot.

During the later months of pregnancy hemorrhages depend upon detachment of the placenta. The blood flows from the ruptured utero-placental vessels, the weakest part of the vascular system. In giving the predisposing causes, I find that at the outset Robert Barnes affirms that "premature separation of the placenta rarely occurs in the young and the robust. It is most common in women about forty years of age who have borne many children, whose constitutions are worn by sickness and poverty, and whose tissues are therefore badly nourished, wanting in tone, tending to atrophy or degeneration." This statement, which, I have no doubt, is true, contrasts strangely with what I

saw in my limited experience, for in my cases the patients were young, strong, and apparently in robust health; the placenta, however, presented a diseased condition. Certain impoverished conditions of the blood lend their indirect aid in the production of the hemorrhage, and such diseases as scarlet fever, variola, typhoid fever, albuminuria, acute atrophy of the liver, and leucocythæmia are potent factors. An exception is mentioned by Osler in the case described by J. C. Cameron, of Montreal, where a leukæmic patient went through three pregnancies without accident, and the children were all non-leukæmic. In this case both mother and grandmother suffered from symptoms strongly suggestive of leukæmia.

Towards the end of the period of gestation there is a great change in the relations which exist between the uterus and placenta; the adhesion becomes much less firm, and slight cause may give rise to detachment. If the placenta is situated in either the fundal or equatorial zone, the bleeding lies concealed, and we have only the general symptoms to guide our diagnosis.

We must not forget the changes in the muscular structure of the uterus itself. In the later months there is a great and rapid increase in muscular fibre, as well as in susceptibility for contraction. If such contraction be sudden or severe, we have a sufficient cause for partial detachment of the placenta—a small extravasation between uterus and placenta will cause further contraction. The placenta is loosened, hemorrhage takes place, and in this way the child is usually killed; and it, in turn, excites contraction and precipitates labor, and, by disturbing the balance between the external and internal layers of the muscular structure of the uterus, so upsets their relations with the vascular layer as to cause hemorrhage, for when contractions take place pressure is brought to bear on the intra-uterine vascular plexus; the blood must find somewhere to escape, and it is forced to some part of the placental disc. The utero-placental vessels, being the weakest part of the vascular system, are the first to yield, and so the bleeding may start.

This is in striking contrast to what may happen during the first half of pregnancy, when it is harder to produce the bleeding in this way;