

action, the result of dilatation.* Either of these conditions, with the presence of an exciting cause, would be sufficient to bring on syncope; but when two or more operate together, as is generally true in these cases, we should not be surprised at its frequent occurrence.

The above being conditions *favorable* to the occurrence of syncope, what are the *exciting causes*? These are so numerous that we cannot stop to mention them, nor is it necessary even were it possible. Let us, however, examine the *modus operandi* in a few cases.

The influence of position in determining the momentum of blood in the vessels is well known. Now, suppose our patient, with causes 3, 4, and 5, as numbered in our summary of predisposing conditions operating, should suddenly assume the erect position. The consequence is that an equally sudden gravitation of blood takes place, the vascular distension of the brain becomes instantly lessened, and a sensation of faintness comes on, often, it is true, but temporary and trivial in character, but occasionally, and especially in cases already much prostrated by loss of blood and other causes, it becomes fatal. And this danger is much increased, as Meigs points out, if fresh hæmorrhage should be brought about, as might very easily be done in a womb not perfectly contracted, by this sudden change from the horizontal position.

Suppose, again, with causes 1, 5, and 3 operating, any communication of a startling nature be incautiously made to the patient. We might expect to see the cheek blanch, and to feel the pulse grow feeble beneath our touch, the heart almost literally "standing still from fear." The same result may follow any *physical* impression, as a blow or sudden pain even of the most trivial character (Cazeaux).

Prof. G. T. Elliot thinks that in these cases fatty degeneration of the heart may frequently serve as an important factor in the causation of syncope. Hodge speaks of syncope occurring during or after labor, especially in women of an excitable temperament, "where the symptom is purely of a nervous character." Bedford records a fatal result where the "causes of the syncope was simply emotion."

But we make no attempt to trace the causes of this symptom further, believing it may almost always be explained in one of the ways already indicated.

It is not necessary to speak of the *symptoms* of syncope, which are familiar to us all; so we proceed at once to the consideration of our *second cause of sudden death*, viz.:

II.—SHOCK.

By this term we understand that disarrangement of the harmony of action of the great organs of the body, the result of a sudden disturbance of the functions of the circulatory, respiratory, and nervous

symptoms (Erichsen). The symptoms are such as result from the combination of the effects of depression of the heart's action, and interruption of the functions of the brain and nervous system. In some of its phases, shock is closely allied to syncope, and resembles it when the operating cause "effects the intimate organization and circulation of the brain"; and if depression of the vascular system should predominate over that of the nervous, we may expect to find our patient lying in a state of syncope. If, however, the nervous system is chiefly affected, the heart's action may be restored to its natural strength, and yet the patient remain insensible (Druitt).

In a large number of cases we find a certain degree of collapse after confinement. The pulse for a time, instead of being full and somewhat frequent, as it is apt to be during the process of parturition, is slow and soft, and the patient experiences a feeling of exhaustion beyond what is common and natural. Though this state is generally speedily recovered from, yet the shock may be so violent as to result fatally in a few hours, or even before the delivery is completed.

Whatever tends to diminish vital resistance, predisposes to shock. Some of the circumstances that may operate in puerperal cases are the same as those we have named as predisposing to syncope. The principal conditions may be named as follows:

1. *Great mental dependency*, the result of a dread of an unfortunate termination, or other causes.

2. *A delicate, highly-nervous organization*.—As tending to bring about an irritable state of the nervous system, we may name the excessive nausea and vomiting that sometimes occur in the last weeks of pregnancy.

3. *The existence of organic disease*, especially of the heart, brain, or kidneys. These diseases act not only by reducing the strength of the system, but also, perhaps, by damaging the quality of the blood (one of them, at least), and impairing the force of the circulation.

We will not stop to name other unfavorable conditions, as they will readily occur to you. Given these predisposing causes, we may name as more direct factors in the production of dangerous or fatal collapse: 1. Excessive severity, with or without long duration of labor. Pain to a certain extent is conservative, but, when great and long-continued, may completely prostrate or overwhelm the nervous centres. 2. Hæmorrhage. 3. Extensive contusions and lacerations of the soft parts, as perinæum and vagina, and rupture of the uterus or bladder. All these causes operate during labor, but their influence extends to the *post-partum* period. It is not necessary to enlarge on any of these points, as their mode of operation is plainly marked. 4. An additional cause of shock is found in the extensive sloughing that may follow contusions of the vagina or cervix uteri, the result of protracted pressure of the foetal head, or the unskillful use of instruments. Dr. Thomas More Madden has recently given the report of a case of sudden death from shock "induced by sloughing of the cervix uteri." (AM. JOUR. OBST., Aug., 1871).

* We do not pretend, of course, that all these conditions are present in all puerperal cases, though an examination of those cases in which syncope occurs would perhaps discover more of them present than we are apt to suppose.