lesions are developed, which cannot be classed under that head.

Cerebral œdema may complicate a typhoid fever during its third week, and give rise to symptoms of a grave character. A decided enfeebling of the mental powers, and a tendency to stupor, announces its occurrence.

Hemorrhagic extravasations on the surface, and into the substance of the brain, the result of degeneration of the walls of the cerebral vessels, occasionally occurs during the height of the fever. If the effusion is moderate, no marked symptoms are developed, but if a considerable extravasation takes place, it gives rise to symptoms of cerebral compression.

Meningeal inflammation is a rare complication.

The occurrence of any of these complications in any case renders the prognosis unfavorable.

You must remember that during the second or third week of the fever certain cerebral disturbances may occur, which seem to indicate the existence of some one of these complications, when really no cerebral lesion exists. Usually, these are present in patients who have had a continuously high temperature; in favorable cases they disappear after a few days. These have been referred to under the head of symptoms.

You will encounter various other disturbances of the nervous system, such as hemiplegia, paraplegia, etc., which may simulate those due to lesions of nerve centres, or local forms of paralysis and anæsthesia, which seem to be confined to individual nerves; but as these functional disturbances do not depend upon any anatomical changes, the prognosis in such cases is good.

Those changes in the kidney which are due to the parenchymatous degeneration which usually attends this fever, have been already noticed; but occasionally nephritis is developed as a sequela. The urine becomes scanty, is loaded with albumen, and contains blood and casts; the face and extremities become œdematous, and death may occur from uræmia. The occurrence of this complication necessarily renders the prognosis bad.

In a few instances under my observation, severe catarrh of the bladder had developed during convalescence, greatly complicating the case; in one instance the cystitis was accompanied by pyelitis.

Suppurative inflammation of the cellular tissue of the body, or cellulitis, especially of the surface, often complicates convalescence, and in some cases causes death. It is most liable to develop in those parts which have been subjected to long-continued pressure. Occasionally it is met with in the pharynx, and along the line of the lymphatics.

Accompanying these cellular inflammations, or occurring independently of them, not unfrequently gangrenous inflammations of the integument occurs, giving rise to what has been called *bed-sores*. These gangrenous processes are most frequently developed at those points which have been subjected to the greatest pressure, on account of the position of the patient, such as the sacrum, nates, heels and shoulder-blades, etc. In the simplest form of *bed-sores* there is only a superficial loss of substance; in more severe cases the subcutaneous cellular tissue is involved; and in the worst cases the muscles and fibrous tissue. I have met with cases where the slough had involved the connective tissue and muscles, and laid bare the bony tissue.

A considerable number of typhoid patients who have lived through the fever, die either from the exhausting effects of these bed-sores, or from the septic poisoning resulting therefrom.

The possible occurrence of these complications must enter into the prognosis in every severe case, and the earlier they make their appearance the greater the danger.

We have now completed the list of principal complications which are to modify your prognosis in any case of typhoid fever. Before leaving the subject, I will say a word in regard to the *duration* and *mode* of termination of this fever.

Its average duration is from three to four weeks; a typical case extends over a period of four weeks. When the fever is protracted beyond the middle of the fourth week, in most instances this is due to some complication or to an extension of the intestinal ulceration. The period of greatest danger is at the close of the third week. Death rarely occurs before the fourteenth day. The prominent direct causes of death are: 1st. Toxæmia; 2d. Asthenia; 3d. Suppression of the excretory function of the kidneys; 4th. Hyperæmia and œdema of the lungs; 5th. Intestinal hemorrhage; 6th. Exhaustive diarrhœa; 7th. Intestinal perforation; 8th. Peritonitis, with or without intestinal perforation. In nearly all cases the failure of heart-power is directly or indirectly the cause of death.

Relapses.—After typhoid fever has run its course, and after the patient is entirely free from fever, quite frequently we have a new development of the fever; these developments are called relapses. Their course corresponds with that of the primary attack, only they are of shorter duration. The temperature rises more rapidly, the eruption reappears, the spleen enlarges, the intestinal and abdominal sypmptoms return, and all the prominent symptoms of the primary fever are rapidly developed. As a rule, the relapse is milder than the primary attack. If it terminate fatally the post-mortem examination shows, in addition to the cicatrizing intestinal ulcers of the primary attack, the recent intestinal changes of the relapse. The lesions of the relapse, although of the same character as