

quarter of an inch thick. Dr. Gowers says, taking together all cases of cerebral abscess it is about equally common for a capsule to be present or absent. The time at which one is formed is important, because if known its presence affords some indication of the age of the abscess. The question can only be decided by traumatic cases in which the commencement can be accurately determined. In such cases the first indication of a delicate membrane has been seen at the end of the second week, but it is rarely distinct before the end of the third week; and it only assumes its character as a well-defined membrane with a smooth capsule at the end of two months. But an abscess may remain for a much longer time without a capsule. Von Bergman, who by the way has written a most valuable monograph on the surgical treatment of diseases of the brain, says, "the slowly developing abscesses of the brain which really constitute the subjects of our consideration are most frequently encapsulated." The condition of the bone in the mastoid region also gave evidence of the duration of the intra-cranial complication. Roswell Park, in a paper read at the Congress of Surgeons in 1888, says, "the formation of these deeper collections of pus in the brain may lie dormant for weeks, months or years." If further proof of his statement was needed, it is only necessary to examine the literature of this subject in regard to the length of time such abscesses may exist. I find one case lasted 28 years. Besides the duration of these intra-cranial complications, another fact demands our attention, viz., that up to a fortnight before his death, not a symptom, subjective or objective,

occurred to reveal the existence of any disease in the brain or its bony covering. Toynbee says, "chronic changes dependent upon disease of the ear may be insidiously going on in the brain substance without there being any symptoms of cerebral disease."

The symptoms of brain abscess are of a threefold character: 1st, those arising from the suppuration itself, and are like those produced by every deep seated collection of pus; 2nd, those from intra-cranial pressure; 3rd, those from the particular seat of the abscess, or focal symptoms. It is manifest the last are of special importance. Among the first class, temperature is especially to be noted, as it is for the greatest part of the time either normal or subnormal; though grave general symptoms exist. The temperature, however, sometimes rises, especially towards the end, often with delirium; but generally it falls again. Ferrier says "many cases of cerebral abscess appear to run their course without causing febrile disturbance, the temperature being in some rather subnormal than the reverse." Bergmann and others state that the local temperature is increased. Just here it may be well to note that Gray and Seguin found the temperature of the left side normally higher than that of the right. There may be a chill and vomiting. Now if the general temperature is normal or sub-normal, and local temperature elevated, pulse slow, with pressure symptoms, we should be on the look out for abscess. I had no means of taking the surface temperature, and the general temperature was above the normal all through but once. There was no chill. Vomiting did occur, but it was doubtful whether it arose from