

I will mention that of Mr. L., who was caught by a revolving band and hurled with great violence to an iron floor where his forehead struck a projecting iron bolt, causing a fracture of the frontal bone, and pushing some of the fragments into the brain. Many of the loose spiculae we removed and the membranes and brain were uncovered to the extent of a couple of inches. The entire frontal bone was movable over the brain. The dura mater was lacerated and some of the brain pouted between its edges. I removed about one dram of loose brain, irrigated the wound, united some of the tissues, inserted drainage tubes, and packed with gauze. The patient was at first unconscious, but within a few hours regained sensibility. He suffered no pain for thirty-eight days. He had no temperature. The wound closed fairly well; kept a portion of the wound open for drainage, as there was constant suppuration. Wound was irrigated daily and packed loosely with gauze. On the fortieth day the irrigation of the brain was followed by severe pain. Within twenty-four hours the temperature rose to 106 degrees. On the forty-second day the patient died in delirium. Post mortem showed the breaking down of the white matter through the frontal lobe, and inflammation of almost the entire brain.

In this case the laceration of the brain would not repair itself. The injury existing in that latent region, the frontal lobe, there was no impairment of motion or of sensation for nearly forty days, at which time pain began, but was undoubtedly the result of inflammation through the brain, and pressure upon nerves leaving that organ. There was no impairment of memory until the elevation of temperature. I think the excruciating pain and inflammation following were caused principally by too forcible irrigation.

W. O., East Oakland, aged 19, fell a considerable distance, striking a rock and fracturing the adjacent parts of the frontal, sphenoidal, temporal and parietal bones on the right side. They were depressed about an inch, causing complete unconsciousness. Used chloroform as an anæsthetic and made a generous incision over the

part, and exposed the fractured skull. Trephined the frontal bone, the trephine only slightly overlapping the fractured part. By the means of a bone elevator, using the solid frontal as a fulcrum, the entire depressed side of the skull was elevated to the proper level. Soon after ceasing the anæsthetic the patient regained consciousness. The periosteum was stitched with catgut and the external wound with silk. Drainage was kept up for two days, and patient left hospital in ten, requiring no further treatment.

Mrs. E. aged 25. Epileptic; convulsions daily. Had no scars on scalp, no depression of bone or pain about skull. Was gradually becoming unable to use her tongue, and could not articulate well. The tongue became clumsy, though the memory was excellent. Placed her in the hospital, treated scalp antiseptically and mapped out the fissure of Rolando on left side. Administered chloroform and made an oval incision over the fissure; the convexity being upwards and forward. Separated the periosteum from bone and trephined well down to the end of fissure. I cut the dura mater with trephine, examined brain, but could not distinguish anything abnormal. Packed the wound loosely with gauze and bandaged. Did not remove the dressing until three days had passed. Irrigated with sterile water and redressed.

It was thought by myself and associates that the patient, up to this time, had improved in speech. On the fifth day, however, she could only speak indistinctly; on the sixth only a part of a sentence; on the seventh only a word; on the eighth not at all. There was no elevation in temperature or pulse; no change in pupil. The memory, as I learned afterwards, was excellent. Administered chloroform, opened flaps, removed with curette a large amount of necrotic granulation tissue; irrigated the wound gently but thoroughly outside and inside of dura; dressed over dura with sterile gauze, outside of this iodoform gauze and absorbent cotton. These were retained by a loose bandage. This dressing caused no pressure on brain, but applied only as an absorbent and protection to an open wound communicating with the brain.

On the first day following the dress-