

As more fully stated in Dr. Weir's history, this case occurred in a female, aged 17 years, admitted to one of the wards in the Glasgow Royal Infirmary, 13th December 1852, with the characteristic symptoms of cholera in its most aggravated and acute form. Although previously healthy, she exhibited to the family with whom she lived as a servant various unusual symptoms of disease, both mental and bodily. She was observed to have little control over her limbs, and frequently complained of weariness and pain in the lower extremities. From her infancy she had been brought up in a benevolent institution; her parents, were both intemperate, and particularly the father, having died when she was young. Her disease terminated fatally on the 22d December, in about ten days from the first appearance of the acute symptoms.

*Examination of the body 20 hours after death.*—The cavity of the cranium in this case was the part to which our attention was more immediately directed, and it is more especially to the condition of the brain substance, that I mean to call attention; premising that no lesions of any moment existed in any other internal organ, and that the external surface of the body presented appearances of severe bruises and abrasions of the scarf skin, resulting from the injuries received during the more violent paroxysms of the convulsive movements. The pupils were unequally dilated; the left to about twice the diameter of the right, which measured about a tenth of an inch. Before removing the brain, it was observed that the contour of the left cerebral hemisphere projected considerably above that of the right side; the superficial vascularity was also greater on the left side. The brain weighed 46 ounces avoirdupois. A horizontal section through the cerebrum showed that its white substance was comparatively bloodless, while the grey matter was unusually distinct from its ruddy appearance. The ventricles contained no fluid, and the sub-arachnoid spaces were also unusually dry. The nerves at the base of the brain were firm and natural in appearance. The arteries of the circle of Willis enclosed fibrinous conglua.

In the absence of any marked organic disease in this case, it appeared to me desirable to have recourse to that kind of investigation which in diseased conditions of the liver, and alterations in the urine and kidney, had yielded such varied and remarkable results, more especially when studied along with the microscopic appearances of the objects of examination; and directing my enquiries to the central parts of the brain, as recommended by Dr. Todd, an accurate examination of their specific gravity was made.

Their specific gravity of the central masses was determined in two ways. 1st, by weighing the parts in air and then in water, and, 2d, by the gravimeter, employing in the latter method a strong solution of Epsom salts, which was gradually reduced by the addition of water, to the density of the portion of brain floated in it. In consequence of the uncertainty of the results obtained by suspending such a soft material as the brain both in air and in water, the observations from the gravimeter have been retained in preference to those modes by the hydrostatic method. The following results were thus obtained:—The specific gravity of the corpora striata, and thalami optici was different on the two sides of the brain; those on the right side were of the specific gravity of 1.025, those on the left side of 1.031, and this difference appeared from the hydrostatic experiments as well as from those made with the gravimeter, confirming in some measure the accuracy of the general result.

The vascularity also of these central parts of the brain, when compared with the grey matter of the spinal cord, which was healthy, was so well marked, as to leave no doubt of its abnormal increase.

Microscopic examination confirmed the existence of increased vascularity, for numerous capillary vessels, in usual abundance, existed in every section examined. Some of these were irregularly dilated, as in a varicose condition, and all were filled to a greater or less extent with the red corpuscles of the blood. The amount of granular substance in these parts of the brain *was*