

left side at the lower extremity of the olivary body and posterior to it. The symptoms were persistent glycosuria, dizziness, vomiting, diplopia, and lateral paralysis of the right upper and lower extremities and right side of the face. Increased sensibility of the right side.

It will be noticed that in all these cases the tumor existed in the substance of the medulla. I have only been able to find two cases in which the tumor was external and produced the symptoms by pressure inwards.

In one described by Brissaud in the *Prague Medical*, 1894, the tumor implicated the cerebellum as well, and the symptoms were more those of a cerebellar tumor than one of the medulla.

The second case by Charcot was published in the transactions of the Société de Biologie in 1851. A tumor the size of a small pigeon's egg, compressing the right side of the medulla and the nerves which spring from it. The patient complained of severe occipital and temporal headaches, pain and tenderness of the neck. Noises and bright light increased the headache. A tendency to vomit on movement of the body necessitated the recumbent position. There was contraction of the pupils, and most obstinate constipation with tenderness of the abdomen. Relief followed the application of leeches to the neck and the use of purgatives. No pain or contractions of the extremities. Right side a little more feeble than the left. Neither strabismus nor deafness. Pupils dilated equally, no vertigo, hallucinations, nor noises in the ears. A month after admission there was little change. Patient protruded the tongue to the right, but could move it to the left when requested. Deglutition imperfect, vomited a good deal. Increased prostration and death without convulsions. The tumor, situated in the right side of the cerebellum, pressed on the right peduncle of the cerebellum, extending to the left side of the medulla.

It will then be seen that in some respects this case is unique. I have not been able to find the record of a single one in which an extra-medullary tumor so small as this one pressed on such a limited portion of the medulla and did not implicate the cerebellum. In reviewing the symptomatology of tumors of the medulla, the ordinary symptoms of brain tumor, persistent headache, dizziness, and vomiting are nearly always present in a greater or less degree. Double optic neuritis is not nearly as often found as in cerebellar tumors. Two general symptoms appear to be prominent in many of the cases: (1) Occipital headache, which extends down the back of the neck, and tenderness and stiffness of the latter region. (2) A peculiar sensation of coldness in the lower extremities. These were especially noticeable in Dr. Osler's case, as well as in my own. The other symptoms resulting from implication of the nerve nuclei in this region will vary with the situation of the tumor, and need not be especially referred to here.