

The question now arises, Can we explain all the symptoms in this case by pressure of a tumor on such a limited portion of the medulla? By the aid of the drawings which I now show you, it will be seen that the ascending, or sensory, root of the fifth pair is in close proximity to the situation of the lesion, and this may account for the numbness of the face, which came on quite suddenly, and was the earliest of the localizing symptoms. The direct cerebellar tract also forms part of the restiform body, and the loss of co-ordination in the legs and arms may be accounted for in this way. Flechzig was of the opinion that the direct cerebellar tract conducted sensations from the muscles of the lower part of the body. In this case the muscles of the arms were much more affected, as far as conduction was concerned, than those of the legs. The nucleus of the auditory nerve lies just on the inner side of the restiform body, and the decided loss of hearing in the left ear may have been produced by greater or less destruction of this nucleus.

The slender columns of Lockhart Clarke pass also immediately internal to the restiform body. This has been termed by Krause the respiratory column. It is intimately connected, in the medulla, with the vagus, with the glosso-pharyngeal and spinal accessory nerves, and the respiratory symptoms in our case may be due to its destruction on one side. The nuclei of these nerves may also have been affected. The glosso-pharyngeal was seriously affected, as shown by the symptoms connected with deglutition which were present during the latter part of the illness. In one respect the symptoms in this case differ from those of tumor of the medulla as they are generally given. The disturbance of motion and sensation existed on the same side as that on which the tumor was found, although the pressure was exerted above the decussation of the lateral pyramidal tracts. It must, however, here be noted that, although the growth was on about the same level with others described, it was extra-medullary, whereas the others were intra-medullary, most of them having arisen from the ependyma of the fourth ventricle.

In Charcot's case, in which the pressure on the medulla was from without, the disturbance of motion and sensation was on the same side as the tumor. It will be remembered that the lower extremity of the growth was about a fourth of an inch below the apex of the calamus, and it is possible that some degeneration of nerve structure may be found below that point so as to influence motor fibres after decussation takes place. According to Spitzka the restiform body is made up of (1) the fibres of the direct cerebellar tract of the same side; (2) the decussating fibres of the opposite postero-external column of the cord which have previously passed through the olivary body; (3) some fibres of the postero-external columns of the same side. The destruction of sensation