

Case of spontaneous luxation of the vertebra dentata / [William Thomson].

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CASE

OF

SPONTANEOUS LUXATION

OF THE

VERTEBRA DENTATA.



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(From the *Edin. Med. and Surg. Journal*, No. 121.)

By the kind permission of Drs Burt and Hay, I had an opportunity of being present, in the course of last summer, at the inspection of the body of a patient of theirs, who died very suddenly and unexpectedly, and in whom death appeared to have been produced by a spontaneous dislocation of the *vertebra dentata*, not accountable for by any symptoms of disease observed during life; nor by any traces of morbid alteration of structure in the bones, articulating cartilages, or connecting ligaments, that could be detected on examination after death. Agreeably to their wish, I have now the honour of submitting a brief statement of the particulars of this case to the Society,—a task which I have undertaken the more readily, that, from conversation with professional friends, as well as from an examination of those works in which similar cases might be expected to be met with, I am led to believe it to be one of extremely rare occurrence.

Mr P. B., the subject of this case, was about 60 years of age, and enjoyed, in general, a good condition of health. For some years before his death he was subject to attacks of sore throat, which were occasionally of a severe character, terminating in the formation of large abscesses. Immediately before his death he had experienced a somewhat severe attack of cold; but from this he had so far recovered, that, with the consent of his medical attendants, he was to have driven in a carriage a few miles out of town on the day on which he died.

On the morning of that day, when Dr Burt called about nine o'clock to make his ordinary visit, he was informed, that as,

contrary to custom, Mr B. had not yet rung his bell, it was supposed that he was indulging in a longer sleep than usual. On approaching the bed, after opening the window-shutters, Dr Burt was very soon convinced that his patient was a lifeless corpse. He was lying upon his back, very far up in bed, with his head thrown very much backwards, and hanging over, so as to be almost behind, the pillow. His countenance was very pale, and, from the temperature of the body, Dr Burt was disposed to believe he could not have been dead for more than two hours. Nothing, however, could be discovered, justifying an opinion at what particular time, or in what particular manner, death had occurred.

The attempt to ascertain by dissection the cause of death in this case was commenced by the examination of the thoracic *viscera*, but no appearances could be detected in the heart or large vessels connected with it, or in the lungs, capable of furnishing the slightest explanation of this sudden and unexpected occurrence. It was remarked, however, that the whole of the blood in the body was in a fluid state, affording, as we conceived, a presumption that death had been instantaneous. The contents of the abdomen, including its large vessels, being also found in a healthy condition, it was resolved to open the *cranium*.

The whole of the *encephalon* was minutely examined without any appearance of disease being discovered in it, and we were about to relinquish all hopes of detecting the cause of death in any organic lesion, when a round knob was observed projecting into the *foramen magnum*, at the posterior margin of the basilar process of the occipital bone. At first this knob was supposed to be a tumour growing out of the basilar process, with which it appeared to be in continuity, but on accurate examination, by rotating the head whilst this knob was grasped by the fingers, it was found to be the *processus dentatus* of the second cervical *vertebra*. As examined through the *foramen magnum*, no mark of disease could be discovered, either in the process itself, in its ligamentous coverings, or in the adjacent *vertebræ*; and no laceration of the coverings, or of the substance of the spinal chord, had been produced by it.

We have to regret that the length to which our examination had already been carried, and the impossibility of bringing the parts into view without mangling the body to a degree which we were not warranted in doing, prevented us from ascertaining the exact state of the *vertebræ* and their ligaments; but, by dissecting from the *nucha* round the *vertebræ*, we were unable to detect any swelling or other traces of inflammatory action either in the bones, or in their connecting cartilages and ligaments.

Neither Mr B.'s medical attendants nor his relations had ever heard him make the slightest allusion to any pain or uneasiness in the region of the neck, and the only circumstance which occurred to them as bearing in the most distant degree, on the supposition of disease existing in this region, was a habit he had of occasionally twitching his head to a side, as if to relieve himself from some tightness of his shirt collar or neckcloth.

In my father's Surgical Notes I find it mentioned, that "Mr Cruikshank, when treating of the spine, shows a dislocation of the *dentata*, which occurred in a woman from a sudden motion, and which was followed by sudden death;" and I find the following fuller, though still incomplete, account of the same case, in an abstract of a selection from an unpublished volume of Anatomical Reports, by the late respected anatomist Mr Wilson of London, published in the London Medical Gazette, Vol. iii. 1828-29. *

"*Luxation of the Dentata.*"—Mr Wilson assisted Mr Cruikshank in examining the body of a woman, aged 30, who had lain-in about a month before. She had been heard suckling her child at one o'clock in the morning; at four she was found dead. The viscera of the abdomen, thorax, and head, were carefully examined, without finding any thing to account for her death; when, as they were returning the brain into the skull, Mr Wilson noticed a considerable projection on the fore-part of the *foramen magnum*. On examination, this was found to be the denticular process of the *dentata* luxated backwards, and which had produced a degree of pressure on the spinal marrow sufficient to destroy life."

This is the only case I have been able to find recorded that corresponds in its nature to that which I have now submitted to the Society, that is, a case of luxation of one of the superior cervical *vertebræ*, independently of external violence, or of the previous existence of well-marked symptoms of disease. Indeed, I am the more induced to believe that this is an extremely rare occurrence, from finding that no allusion is made to it in a very learned inaugural dissertation written expressly on the subject of Spontaneous Luxation of the *Atlas* and *Epistropheus*, by Dr Schupke, a pupil of the celebrated Professor Rust. All the instances of the spontaneous luxation of these *vertebræ* referred to by Schupke, depended on the effects of inflammatory action, evident symptoms of which had manifested themselves during life.

* Since the above communication was laid before the Society, I have, by the kindness of Dr J. A. Wilson, had an opportunity of reading Mr Cruikshank's case as detailed in the MS. volume above referred to, and have been enabled, by the restoration of a few words, to render the following statement of it somewhat more precise.

Neither Mr. H.'s medical attendants nor his relations had ever heard him make the slightest allusion to any pain or tenderness in the region of the neck, and the only circumstance which occurred to them as bearing in the most distant degree on the supposition of disease existing in this region, was a habit he had of occasionally touching his head to a side, as if to relieve himself from some tightness of his shirt collar or neckcloth.

In my father's Surgical Notes I find it mentioned, that Mr. Crewdson, when treating of the spine, shows a dislocation of the vertebra, which occurred in a woman from a sudden motion, and which was followed by sudden death; and I find the following further, though still incomplete, account of the same case, in an abstract of a lecture from an unpublished volume of Anatomical Reports, by the late respected anatomist Mr. Wilson of London, published in the London Medical Gazette, Vol. III. 1828-29.

"*Dislocation of the Vertebra.*"—Mr. Wilson assisted Mr. Cruikshank in examining the body of a woman, aged 30, who had lain in about a month before. She had been heard sucking her child at one o'clock in the morning; at four she was found dead. The viscera of the abdomen, thorax, and head, were carefully examined, without finding any thing to account for her death; when, as they were returning the brain into the skull, Mr. Wilson saw noticed a considerable protrusion on the fore part of the lower vertebrae. On examination, this was found to be the dislocation of the vertebra, which had been pushed forward, and which had produced a degree of pressure on the spinal marrow sufficient to destroy life."

This is the only case I have been able to find recorded that corresponds in its nature to that which I have now submitted to the Society, that is, a case of luxation of one of the superior cervical vertebrae, independently of external violence, or of the previous existence of well-marked symptoms of disease. Indeed, I am the more inclined to believe that this is an extremely rare occurrence, from finding that no allusion is made to it in a very learned and important dissertation written expressly on the subject of Spontaneous Luxation of the Vertebra and Ankylosis, by Dr. Schenk, a pupil of the celebrated Professor Hall. All the instances of the spontaneous luxation of these vertebrae referred to by Schenk, depended on the effects of inflammatory action, evident symptoms of which had manifested themselves during life.

Thus the history of the present case is entirely different from that of the cases referred to by Schenk, and it is therefore of great interest to the Society, as it affords an opportunity of comparing the results of the two different modes of action, and of ascertaining the nature of the disease which may be the cause of the spontaneous luxation of the vertebrae.