

The emperor with the shaking head: Claudius' movement disorder

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J R Soc Med 2000;93:198-201

The medical conundrum posed by the Roman emperor Claudius remains one of the most intriguing of the ancient world. Born in 10 BC, Tiberius Claudius Drusus Nero Germanicus survived the internecine conflicts within the Julio-Claudian house to become emperor of Rome in 41 AD at the age of fifty, after the murder of his nephew Caligula. He ruled the Roman empire for fourteen years, until his death in suspicious circumstances at the age of sixty-four¹. What is remarkable about this achievement is that for much of his life he suffered from a disabling illness, characterized by such striking outward manifestations that his family called into question his soundness of mind. Yet accounts of his long and apparently successful reign render the cumulative impression that neither his intellectual function nor his lifespan was adversely affected by his condition.

The nature of this illness has been a source of speculation; suggestions have included cretinism, hydrocephalus, epilepsy, infantile paralysis and alcoholism^{2,3}. However, none of these diagnoses is wholly consonant with the historical picture of a chronic disorder of motor function sparing the intellect and compatible with normal survival. Perhaps the most plausible suggestion to date has been that of cerebral palsy². The information extracted from historical sources suggests that Claudius' condition might most appropriately be placed in the general category of a movement disorder. Re-examination of the evidence from this point of view provides a new perspective on the emperor's illness, and raises the possibility that Claudius' condition may have been a form of dystonia.

The surviving descriptions of Claudius' illness combine to form a case history of tantalizing brevity. Only three historical sources provide medical information of any significance. The most objective and detailed is the biography written by Gaius Suetonius Tranquillus¹. Born around 70 AD, Suetonius, a court official who directed the imperial libraries and correspondence, is thought to have used his access to imperial records to furnish material for his *Lives of the Caesars*⁴. The historian Dio Cassius, a native of Nicaea born around 163 AD whose political career took him to the Roman senate⁵, provided a later profile⁶. The third

and rather more unlikely source is the *Apocolocyntosis* ('Pumpkinification') attributed to Lucius Annaeus Seneca⁷. In this posthumous satire on Claudius' deification, many of Claudius' physical peculiarities are lampooned. As Seneca—philosopher, author and tutor to Nero—was a contemporary of Claudius⁸, we can reasonably assume that the abnormal movements emphasized by Seneca had a basis in fact.

Claudius was born in Lugdunum (now Lyons) while his father, stepson of the emperor Augustus, was away from Rome on a military campaign (*Suet.* II,1). There is no evidence that his parents or the two siblings who survived infancy (or indeed later his children) suffered from any neurological illness. The first signs of his illness seem to have developed during childhood (*Suet.* II,1), the predominant manifestations being abnormal gait, involuntary movements involving at least the head and hands, and disturbance of speech. Although there are instances of odd behaviour late in his reign, the success and length of Claudius' reign are difficult to reconcile with anything other than preserved cognitive function.

ABNORMAL MOVEMENTS

Viewed in isolation, descriptions of Claudius' gait disturbance are rather non-specific. When walking, 'his weak knees gave way under him' (*Suet.* XXX), and on one occasion he was described as 'running... with his ridiculous tottering gait' (*Suet.* XXI,6). Once, as part of a ceremony celebrating Roman military victories, he was required to ascend the steps of the Capitol on his knees, but needed 'his sons-in-law supporting him on either side' (*Dio* LX,23,1). A description of Claudius walking 'with unequal steps' (*Sen.* 1,2) and 'dragging his right foot' (*Sen.* 5,2) implies an element of asymmetry in his 'unusual gait' (*Sen.* 5,3). The gait disturbance seemed to preclude him from walking long distances, as he was 'the first of the Romans [i.e. emperors] to use a covered chair' (*Dio* LX,2,3).

The involuntary movements accompanying Claudius' gait disturbance are rather more specific in their diagnostic implications. According to Suetonius, 'his head was very shaky at all times' (*Suet.* XXX). Seneca declared that 'he was continuously wagging his head' (*Sen.* 5,2), and later referred to his 'shaking hand' (*Sen.* 6,2) and 'restless head'

(*Sen.* 7,2). Dio merely commented that 'his head and hands shook slightly' (*Dio* LX,2,1). The salient feature of Claudius' abnormal movements was their exacerbation by posture or action; he 'possessed majesty and dignity of appearance, but only when he was standing still or sitting, and especially when he was lying down' (*Suet.* XXX), and his head movements increased 'when he made the least exertion' (*Suet.* XXX). Idiosyncrasies in his performance of official duties as emperor suggest attempts to avoid the activities likely to exacerbate these movements when under public scrutiny. When in the senate, 'by reason of his ill health he frequently remained seated' (*Dio* LX,12,3) and 'whatever he did read himself, he usually delivered sitting down' (*Dio* LX,2,2). In considering the nature of these posture and action exacerbated involuntary movements, especially the tremulous head movements, additional note must be taken of the description of Claudius as a man with a 'full neck' (*Suet.* XXX), and of coin portraits of Claudius demonstrating disproportionately large cervical musculature⁹.

It seems to have been these abnormal movements that motivated Claudius' family to curtail his participation in the usual duties of the imperial family during his youth. On the rare occasions when public exposure was unavoidable, measures were taken to limit his visibility. When 'contrary to all precedent he wore a cloak when he presided at the gladiatorial games which he and his brother gave in honour of their father' (*Suet.* II,2), the intention may have been to shield Claudius' abnormal movements as much as possible from the assembled populace. Augustus forbade his attendance at gladiatorial contests, 'for he will be conspicuous if exposed to full view in the front of the auditorium' (*Suet.* IV,3). Similarly, 'on the day when he assumed the gown of manhood he was taken in a litter to the Capital about midnight without the usual escort' (*Suet.* II,2)—a very clandestine substitute for what would typically have been a publicly celebrated event for a young male of his rank. Clearly, the family regarded his abnormal movements with disapproval; Augustus himself thought that Claudius would be improved if 'he would choose more carefully . . . someone to imitate in his movements, bearing and gait' (*Suet.* IV,5).

SPEECH DISTURBANCE

What of the disturbance of speech, referred to by Suetonius as a stammer (*Suet.* XXX)? His 'voice was . . . faltering, and he did not himself read all the measures that he introduced before the senate, but would give them to the quaestor to read' (*Dio* LX,2,2). Seneca's descriptions were more fanciful; Claudius spoke 'with a confused sound and in an unintelligible voice' (*Sen.* 5,2), with 'indistinct utterance' (*Sen.* 7,2), and most picturesquely, with a 'voice like that of

no land-animal but typical of sea-beasts, hoarse and inarticulate' (*Sen.* 5.3). Although in this latter phrase hyperbole is clearly triumphing over fact, there seems little doubt that Claudius' speech was marred by dysarthria, if not also dysphonia. In his youth Claudius gave a public reading of a Roman history he had written (*Suet.* XLI,1); however, when he continued work on the history after he became emperor he 'gave . . . recitals through a professional reader' (*Suet.* XLI,2)—an indication that the speech disturbance may have worsened over time. As noted above, much of Claudius' reading in the senate was also delegated to others. Further descriptions suggest that the muscles of articulation functioned abnormally during other activities: 'his laughter was unseemly and his anger still more disgusting, for he would foam at the mouth and trickle at the nose' (*Suet.* XXX).

COURSE OF DISEASE

Cogent assessment of Claudius' disorder is hampered by the lack of any comprehensive picture of its temporal course. A reasonable case can be made for an onset in mid-childhood. The disorder seems not to have been present from birth; 'throughout *almost* the whole course of his childhood and youth he suffered so severely from various obstinate disorders that the vigour of both his mind and his body was dulled' (*Suet.* II,1; italics added). However, evidence points to an onset *after* infancy and early childhood. One such indication is the education Claudius received. 'In mental ability he was by no means inferior, as his faculties had been in constant training' (*Dio* LX,2,1); 'he gave no slight attention to liberal studies from his earliest youth, and even published frequent specimens of his attainments' (*Suet.* III,1); he 'began to write a history in his youth' (*Suet.* XLI,1) and 'gave no less attention to Greek studies' (*Suet.* LXII,1). It seems unlikely that a formal education of this type would have been undertaken in a child who had evinced serious disability from early childhood. Similarly, unless Claudius' illness developed after he had originally learned to walk and talk, it seems doubtful that these milestones would have been achieved at all. The later course of the illness is open to conjecture. There is no discussion of the temporal course of Claudius' illness in Suetonius' biography, so we have the impression of a static and non-progressive condition. As noted above, a change in Claudius' public reading habits over time does raise the possibility that the speech disorder worsened with advancing age, but there is no real evidence to support progression in his gait disturbance or his involuntary movements over his lifetime.

One intriguing aspect of Claudius' illness was his family's uncertainty over the prognosis. Augustus summed up the family's dilemma in a letter:

'... if he be sound and so to say complete, what reason have we for doubting that he ought to be advanced through the same grades and steps as his brother has been advanced? But if we realise that he is wanting and defective in soundness of body and mind, we must not furnish the means of ridiculing both him and us to a public which is wont to scoff at and deride such things. Surely we shall always be in a stew, if we deliberate about each separate occasion and do not make up our minds in advance whether we think he can hold public office or not... I desire that something be decided once for all about the whole matter, to save us from constantly wavering between hope and fear' (*Suet.* IV,1-4).

Why should Claudius' family be so unsure about the extent of his disability? Perhaps they had difficulty accepting any evidence of normal intellect in the face of the striking physical manifestations. However, it is also possible that Claudius' illness baffled his family because his symptoms fluctuated in severity. Certainly the following observation by Augustus would be consistent with such a possibility:

'Confound me, dear Livia, if I am not surprised that your grandson... could please me with his declaiming. How in the world anyone who is so unclear in his conversation can speak with clearness and propriety when he declaims, is more than I can see' (*Suet.* IV,6)

Descriptions of his gait disturbance also suggest variations in severity. For example, during one public appearance he seems to have walked down the aisle of an amphitheatre between tiers of seats to reach his own place without difficulty (*Suet.* XXI,1), despite presumably needing to negotiate a series of steps in the process.

DIAGNOSIS

Thus a plausible clinical picture begins to emerge. After an initially normal early childhood development, Claudius began to manifest a disorder marked by gait disturbance, tremulous involuntary movements of head and limbs sufficient to cause social embarrassment, and a speech disturbance suggestive of dysarthria with or without dysphonia. Abnormal movements of head and hands were worsened by postural and action manoeuvres, and there may have been hypertrophy of cervical muscles. There is evidence that the movement and speech disorder fluctuated in severity. The disorder was probably nonprogressive, at worst only gradually progressive. Cognitive function was almost certainly spared, and the illness seems not to have shortened his life span.

Although the exact diagnosis will never be known, there is sufficient information to justify assigning Claudius' illness to the general category of a dystonic disorder. Dystonia has

been defined as a syndrome of sustained muscle contractions, frequently causing twisting and repetitive movements, or abnormal postures¹⁰. The abnormal movements of dystonia may be slow and sustained but are often more rapid, repetitive and rhythmic, mimicking tremor¹¹. They are almost always aggravated by voluntary movement, and can be influenced by the assumption of particular postures¹⁰. The distribution of dystonic movements or postures can range from focal (affecting only one muscle group) to generalized, and involvement may include limb, cervical, cranial or laryngeal muscles¹¹. Muscle hypertrophy may be a feature in chronic cases, as in spasmodic torticollis¹².

The dystonic disorders have been classified on aetiological grounds into primary dystonias, dystonia-plus syndromes, hereditodegenerative diseases and secondary dystonias¹³. Claudius' illness does not fit the usual pattern of a primary childhood-onset dystonia, which typically begins in the limbs and progresses slowly to involve other areas, tending to spare cranial structures such as face, pharynx and tongue until late in the disease course¹³. The long and indolent course of Claudius' illness and the relative preservation of cognitive function are inconsistent with any of the progressive hereditodegenerative illnesses that may present with dystonia, such as Wilson's disease¹⁰. The dystonia-plus syndromes include other neurological features such as parkinsonism or myoclonus in addition to dystonia¹³. The marked diurnal variation in symptoms that may occur in these disorders¹¹ could account for fluctuations in severity of Claudius' symptoms. However, Claudius' condition conforms rather better to the picture of a secondary dystonia, which may be non-progressive after an initiating insult and in which early involvement of speech is more common¹⁰. Secondary dystonias may arise from a variety of brain insults; infectious encephalitis, head trauma and hypoxic brain injury¹³ would all be possibilities in Claudius' case.

CONCLUSION

The diagnosis of dystonia provides a satisfactory explanation for many of the cardinal features of Claudius' movement disorder. A secondary form of dystonia consequent to a central nervous system infection or a head injury in childhood seems the most tenable hypothesis. Supposition aside, attempts to elucidate Claudius' movement disorder only serve to highlight the achievements of this remarkable figure in the face of such adversity.

Acknowledgments I thank Professor PD Thompson for helpful comments.

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