

COSIMO DI MEDICI'S ARTHRITIS

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When the Italian painter, Jacopo di Pontormo was asked in 1519 to paint a posthumous portrait of Cosimo il Vecchio (the old) (Figure 1), the father and patriarch of the wealthy and politically influential Florentine Medici clan, he tried to show in his painting that this man had suffered from pains in his joints throughout several decades of his life.

Cosimo il Vecchio started to suffer from pain in his feet at the age of 43, these pains then spread to his knees and later to his hands, and finally they seem to have affected the whole of his body. These rheumatic pains were often accompanied by fever.

His physicians, the elite of their kind in Renaissance Italy, had no doubt that their patient was showing a classical presentation of gout. The diagnosis was even more likely to them when family members of the following three generations, amongst them Piero il Gottoso (the gouty) and Lorenzo il Magnifico (the magnificent), developed similar symptoms.¹

Physicians at the time were reasonably familiar with the signs and symptoms of gout as it had already been described by Hippocrates in the fifth century BC, more than 2,000 years earlier.² Seneca had then documented the familial nature of gout and Galen had described tophi in the third century AD.³



FIGURE 1
Cosimo il Vecchio (painted c. 1518–19) by Jacopo di Pontormo.

Gout was encountered frequently among the rich and noble in this era due to their heavy consumption of meat and wine. Running water was supplied through lead pipes. The combination of these two facts may have destroyed the last doubts as to what the Medici patriarch was suffering from.

When the bodies of four generations of Medicis were removed from the family chapel in 1945, Costa and Weber studied the skeletons of Cosimo il Vecchio, his son Piero il Gottoso, his grandson Lorenzo il Magnifico, and his great-grandson, Giuliano.

Some surprise was expressed when Cosimo di Medici's skeleton did not show changes typical for gout, which would have been expected given his long history of recurrent and severe attacks. Instead, signs of ossification of the vertebral ligaments, with bony bridging between the vertebral bodies and complete fusion of the inter-apophyseal joints of the dorsal vertebrae, were found. Degenerative changes were present in the left hip joint and the right ankle joint was fused. The whole skeleton was osteoporotic. It is recorded by Costa that these skeletal remains demonstrated many features of ankylosing spondylitis.⁴ This gains even more weight from the fact that the skeleton of his son Piero showed ankylosis of the sacro-iliac joints, making a diagnosis of ankylosing spondylitis in Cosimo, his father, even more likely, given the known familial inheritance of the condition.

However, Pontormo's painting (and other paintings of Cosimo il Vecchio) only show evidence of peripheral joint disease, namely swelling of the metacarpophalangeal joints of both hands as well as of the proximal interphalangeal joint of the second digit of the right hand; these features are again somewhat suggestive of gout. Pontormo, however, painted the portrait of Cosimo il Vecchio more than 50 years after his death, and it is therefore likely that he used descriptions of him by family historians for his portrait as well as further non-conserved paintings.

The posture the subject as adopted in the painting could be suggestive of the curvature and rigidity of the spinal column which is associated with late phases of ankylosing spondylitis.

Pontormo was influenced in his technique by Albrecht Dürer and Leonardo da Vinci, both of whom had shared a quest for a universal art that would construct representations of all forms in nature on the basis of a profound understanding of natural philosophy in all its relevant facets.⁵ He would thus have tried to picture Cosimo di Medici with all his characteristics, in as realistic a manner as possible, 'warts and all'.

It is important to point out that although gout was well described in the 15th century, other forms of arthritis were not, and that the term 'gout' was used for various forms of arthritis. It was only in the 18th century that rheumatoid arthritis was differentiated from gout.^{6,7} A whole family might therefore have been ascribed a wrong diagnosis, because the differentiation of two different disease entities was simply not yet known. This perhaps raises the more general question, that of whether many historical figures believed to have suffered from gout might have suffered from a completely different form of arthritis. In this respect one should always bear in mind that diagnoses made many hundreds of years ago were made without our current detailed understanding of disease processes, diagnostic criteria and investigations available nowadays and should therefore always be interpreted with great caution.

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