

Elsevier Editorial System(tm) for The Lancet  
Manuscript Draft

Manuscript Number: THELANCET-D-17-04435

Title: No Acromegaly in Lorenzo the Magnificent

Article Type: Correspondence

Keywords: Lorenzo the Magnificent, Paleopathology, Nosography

Corresponding Author: Professor Gino Fornaciari, M.D.

Corresponding Author's Institution: University of Pisa

First Author: Gino Fornaciari, Professor

Order of Authors: Gino Fornaciari, Professor; Valentina Giuffra,  
Associate Professor; Antonio Fornaciari, Postdoctoral Researcher

Manuscript Region of Origin: ITALY

## No Acromegaly in Lorenzo the Magnificent

We have read with interest the diagnosis of acromegaly proposed for Lorenzo the Magnificent (1449–92)<sup>1</sup>, but unfortunately we totally disagree with the conclusions of the Authors.

The analysis of the portraits does not show any changes in the prince's facial morphology: the characteristic coarse facial features, well evident in his funerary mask, such as frontal bossing, brow protrusion, enlargement of lips, nasolabial folds and prognathism, are already well visible in the three portraits of Lorenzo in life: the medal for the victory of a joust in 1474 at 24 years, the medallion for the Pazzi conspiracy in 1478 at 27 years, and Ghirlandaio's fresco of the Sassetta Chapel in the Church of S. Trinita in Florence at 30-35 years (figure).<sup>2</sup> However, the facial skeleton of Lorenzo clearly shows a posterior position of the maxillary on the mandible, with an evident anterior cross-bite,<sup>3</sup> revealing a typical Class III dental and skeletal malocclusion of evident congenital origin.

Finally, the reference to Danford is misleading because this art historian is interested in the evolution of the symbolic aspect of the Medici portraits, describing only a unique portrait of Lorenzo.<sup>4</sup>

The anosmia, referred by some chroniclers in juvenile age as caused by "the depressed nose and totally smell-less",<sup>5</sup> and the deepening of voice were both most probably caused by the malformation of the osseous nose, well revealed by the anthropological study.<sup>3</sup>

Contrarily to what affirmed by the Authors, anthropological and radiological examination of the bones does not show any sign of diffuse hypertrophic osteoarthropathy and kyphoscoliosis, apart from a light anterior enlargement of the ribs.<sup>3</sup> Strangely wrong is also the diagnosis, made by the Authors, of diffuse idiopathic skeletal hyperostosis (DISH), which they probably confused with that of Cosimo the Elder.<sup>6</sup> Finally, X-ray of the skeleton shows "normal bone density... with well recognisable diploe without "hyperostosis" and "a severe chronic arthritis of the metatarsals" and a well consolidated fracture of left humerus metaphysis.<sup>6</sup>

However, the most important X-ray observation against the diagnosis of acromegaly remains the presence of "a turcic sella rather small and flat, with narrow aditus",<sup>3</sup> clearly demonstrating the absence of any adenoma of hypophysis.

On the basis of these considerations, the diagnosis of acromegaly in Lorenzo the Magnificent, not supported by any evidence, is inconsistent and remains pure speculation.

We declare no competing interests.

\*Gino Fornaciari, Valentina Giuffra, Antonio Fornaciari

[gino.fornaciari@med.unipi.it](mailto:gino.fornaciari@med.unipi.it)

Department of Translational Research and New Technologies in Medicine and Surgery, Division of Paleopathology, University of Pisa, Pisa, Italy

1 Lippi D, Charlier P, Romagnani P. Acromegaly in Lorenzo the Magnificent, father of the Renaissance. *The Lancet* 2017; **389**: 2104.

2 Langedijk K. The portraits of the Medici, 15<sup>th</sup>-18<sup>th</sup> Centuries, 2<sup>nd</sup> volume. Firenze: Studio Per Edizioni Scelte, 1983.

3 Genna G. Lorenzo il Magnifico e il fratello Giuliano. Studio antropologico-storico. *Rendiconti dell'Accademia Nazionale dei XL* 1958; Serie IV, Vol. VIII: 5-82.

4 Danford MJ. The evolution of the Medici portraits: from business to politics. MA Thesis, John Carroll University, 2013.

5 Pieraccini G. La stirpe de' Medici di Cafaggiolo, 1<sup>st</sup> volume. Firenze: Vallecchi Editore, 1924.

6 Costa A, Weber G. Le alterazioni morbose del sistema scheletrico in Cosimo dei Medici il Vecchio, in Piero il Gottoso, in Lorenzo il Magnifico, in Giuliano Duca di Nemours. Archivio "De Vecchi" 1955; **23**:1-69.

**Legend to Figure: Portrait of Lorenzo de' Medici 30-35 years old (at centre), with well evident prognathism by Class III dental and skeletal malocclusion**

(Ghirlandaio's fresco of the Sassetta Chapel in the Church of S. Trinita in Florence)

Figure

[Click here to download high resolution image](#)

