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--Manuscript Draft--

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Endo&Art		
Università degli Studi di Parma (FIL 2020)	PROF ROBERTO TONI	
NO ABSTRACT REQUIRED		
ROBERTO TONI, MD, PhD University of Parma Department of Medicine and Surgery: Universita degli Studi di Parma Dipartimento di Medicina e Chirurgia PARMA, ITALY		
University of Parma Department of Medicine and Surgery: Universita degli Studi di Parma Dipartimento di Medicina e Chirurgia		
ROBERTO TONI, MD, PhD		
ROBERTO TONI, MD, PhD		
FULVIO BARBARO, PhD		
GIUSY DI CONZA, PhD		
FRANCESCO TRIMARCHI, MD		
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MARTINO ENIO PROFESSOR OF ENDOCRINOLOGY, University of Pisa School of Medicine and Surgery: Universita degli Studi di Pisa enio.martino@gmail.com INTERNATIONALLY RENOWED EXPERT OF ENDOCRINOLOGY AND ART		
	OF THE HELLENISTIC DRAMATIST ME Endo&Art Università degli Studi di Parma (FIL 2020) NO ABSTRACT REQUIRED ROBERTO TONI, MD, PhD University of Parma Department of Medic Parma Dipartimento di Medicina e Chirurg PARMA, ITALY University of Parma Department of Medic Parma Dipartimento di Medicina e Chirurg ROBERTO TONI, MD, PhD ROBERTO TONI, MD, PhD FULVIO BARBARO, PhD GIUSY DI CONZA, PhD FRANCESCO TRIMARCHI, MD SUBMISSION OF THE MANUSCRIPT GI IN CHIEF PROF. LUIGI BARTALENA MARTINO ENIO PROFESSOR OF ENDOCRINOLOGY, U Surgery: Universita degli Studi di Pisa enio.martino@gmail.com	

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NODULAR GOITER AND LARYNGEAL ANATOMIC VARIANT IN TWO PORTRAITS OF THE HELLENISTIC DRAMATIST MENANDER

Roberto Toni^{1,2}, Fulvio Barbaro¹, Giusy Di Conza¹, Francesco Trimarchi³

¹ Dept. of Medicine and Surgery, Unit of Biomedical, Biotechnological and Translational Sciences, and Museum and Historical Library of Biomedicine - BIOMED, University of Parma, Parma, Italy, ² Division of Endocrinology, Diabetes, and Metabolism, Tufts Medical Center, Tufts University School of Medicine, Boston, MA, USA, ³ Dept of Clinical and Experimental Medicine, University of Messina, Messina, Italy

These two marble sculptures (Figs.1a and 1b) dated to the Imperial Roman period portray the 2nd B.C. Greek Dramatist Menander, and are kept at the Chiaramonti Collection of the Vatican Museums in Rome and Uffizi Museum in Florence, respectively. Both display an anatomical variant of the thyroid cartilage, i.e. its protrusion on the midsagittal plane to give rise to the so called Adam's Apple. In particular, the lateral view of the Menader's head shows an acute angle of protrusion of 13° between the line tangential to the thyroid cartilage and that intersecting the most anterior projection of the cartilage, as in an adult population (1). This gender feature is due to raised pubertal androgens, growth hormone, and related cartilage growth factors in males. Since this anatomical evidence suggests that Menander really had a "jug's spout", we may assume that he also truly harbored the small goiter visible in both images and showing a likely isthmic nodule in the Uffizi's sculpture (Fig. 1b). Indeed, this latter piece of art is one of the eighty replicas of an original by Cephisodotos the Younger who was contemporary of Menander, and reproduced his real life appearance. Finally, goiter portraits (figures, coins) are found in ancient Greek art (2), supporting our belief the Menander might actually have had a nodular goiter.

Key words: nodular goiter, laryngeal prominence, anatomic variant

References

- 1. Glikson E, Sagiv D, Eyal A, Wolf M, Primov-Fever A. (2017) The anatomical evolution of the thyroid cartilage from childhood to adulthood: a computed tomography evaluation. Laryngoscope 127:E354-E358.
- 2. Laios K, Gregory Tsoucalas G, Karamanou M, Androutsos G. (2015) Goiter in ancient Greek art. Indian J Endocrinol Metab 19: 190.

Figure 1. a) Head of Menander. Marble, Roman copy of the Imperial era, Chiaramonti Collection, Vatican Museums, Rome, Italy, b) Marble Head of Menander, Roman copy of the Imperial era on modern bust (lateral view) Le Gallerie degli Uffizi, Florence, Italy. Both sculptures are replicas after a Greek original (ca. 343 - 291 BC).

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest. **Ethical approval** This article does not contain any study involving human subjects or animal models.

Informed consent No informed consent is necessary.

