



## Further data corroborating a pituitary contribution to the genesis of the Cyclopean myth

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Sir,  
Several theories have been put forward to explain the myth of the Cyclops, encompassing the fields of genetics, teratology, and palaeontology. Endocrinologically, a diagnosis of acromegalic gigantism was proposed by Denko, who based his opinion on his observation of the reconstructed ancient sculptural group “The Blinding of Polyphemus” (Archaeological Museum of Sperlonga, Latina, Italy) [1]. A similar suggestion was offered by Papavramidou and colleagues, who noted characteristics of gigantism and acromegaly in a 650 BC Proto-Attic amphora (Eleusis Archaeological Museum, Greece), hence, much closer to the age during which “The Odyssey” was composed (ca. end of the eighth century BC) [2]. Later, Martino and Macri further corroborated this interpretation of acromegalic gigantism by stressing the fact that the single eye, rather than being an actual physical trait or deformity, should instead be regarded as a figure of speech: since in acromegaly the expansion of the pituitary gland causes a compression of the optic chiasm with bilateral hemianopia, causing the preservation of only central vision, this could account for the metaphorical description of the Cyclopes as being “one-eyed” [3]. Finally, Markantes and colleagues also supported this latter explanation, although they considered Cyclopean gigantism to be associated with familial isolated pituitary adenoma (FIPA) or X-linked acrogigantism (X-LAG), which would explain Homer’s reference to a family of Cyclopes [4].

Polyphemus’ depression, polydipsia, alcoholism, and polyphagia could be also explained as symptoms of type 2 diabetes mellitus developing in this endocrinological setting, though, once

again, given the poetical nature of the story, one should avoid interpreting these traits strictly from the medical point of view.

Anatomically speaking, there are definitely much clearer indications to be found in “The Odyssey” [IX.257; IX.372], where Polyphemus is described as having a “deep voice” [φθόγγον τε βαρὺν] and a “stout neck” [παχὺν ἀυχένα]. A low-pitched voice has indeed been documented in modern acromegalic patients [5]. Cervical thickness seems to indicate generalized fat deposits and redundant skin rather than a ventral mass (e.g., hypothyroidal goiter), and cervical fat reduction following adenectomy has been reported [6]. In addition, acromegalic gigantism has been shown to have existed long before the days of Homer, for example, in around 2700 BC, as is evident from the alleged remains of the ancient Egyptian Pharaoh Sa-Nakht [7].

In conclusion, the collected evidence supporting a retrospective diagnosis of acromegalic gigantism certainly appears substantial, while, as often occurred in ancient societies, many aspects of the physical appearance could have been, due to superstitious beliefs, amplified and embroidered upon. Thus, such pathological elements as described above could well have contributed to the birth of this myth (as well as of other analogous myths round the world). Meanwhile, one cannot exclude a priori that the gigantic body size of the Cyclopes could also partially stem from the discovery in that age of palaeontological remains. Such a misinterpretation recently occurred in Sicily (Avola, Syracuse) when a molar belonging to an approximately 150,000-year-old pygmy elephant was thought to be a human thorax, a gross error corrected only by the application of osteological techniques [8].

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## Compliance with ethical standards

**Conflict of interest** The authors declare no conflict of interest.

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