anatomy
www.anatomy.org.tr
An International Journal of Experimental and Clinical Anatomy

Letter to the Editor

www.anatomy.org.tr
Received: April 5, 2016; Accepted: April 13, 2016
doi:10.2399/ana.16.028

Herophilos recognized that the testicules produced spermatozoa?

Dear Editor,

In a recent article in this journal, published in 2015 and entitled "Herophilos, the great anatomist of antiquity", the author Romero Reverón says: "*He recognized that the testicles produced spermatozoa*".[1] We want to object to such a claim for the following reasons:

(1) Herophilos lived between 335–280 A.C, and during that time had not invented the microscope yet, which was created by Zacharias Janssen in 1590.[2] The resolving power of the human eye is 0.1 to 0.2 mm, equivalent to a range of 100 to 200 mμ, while spermatozoa are microscopic size, where the head has an average length of 4 to 5 μm.[3,4] Therefore, Herophilos never could have said that the testes produce sperm, since these are not visible to the naked eye.

(2) The historical reports indicate that sperm were identified for the first time in 1677 by Antony van Leeuwenhoek,[5] who also made other discoveries using simple microscope.[6] In a letter dated November 1677 and addressed to Lord Brounker, secretary of The Royal Society, he mentioned that he had observed a multitude of "small animals" which he named "animalcules": "*I had seen such a multitude of live animalcules more than a million, having the size of a grain of sand and moving in a space …those animalucles were smaller than the red blood cells. They had a round body, foam in the front, terminated in a point at the back; they were equipped with a tail with five to six times the body length. They progressed in a snake-like motion helped by their tail…*".[7]

Jorge Eduardo Duque Parra
Department of Basic Sciences, Program of Medicine, University of Caldas, Manizales, Colombia
e-mail: jduqueparra@yahoo.com.mx

John Barco Ríos
Department of Basic Biological Sciences, Autonomous University of Manizales, Manizales, Colombia

References

1. Romero Reverón R. Herophilos, the great anatomist of antiquity. Anatomy 2015;9:108–11.
2. Wollman AJM, Nudd R, Hedlund EG, Leake MC. From Animaculum to single molecules: 300 years of the light microscope. Open Biol 2015;5:150019.
3. Maree L, du Plessis SS, Menkveld R, van der Horst G. Morphometric dimensions of the human sperm head depend on the staining method used. Hum Reprod 2010;25:1369–82.
4. Karamanou M, Poulakou-Rebelakou E, Tzetis M, Androutsos G. Anton van Leeuwenhoek (1632–1723): father of micromorphology and discoverer of spermatozoa. Rev Argent Microbiol 2010;42: 311–4.
5. Parker V. Antony van Leeuwenhoek. Bull Med Libr Assoc 1965;53: 442–7.
6. Motta PM. Marcello Malpighi and the foundations of functional microanatomy. Anat Rec 1998;253:10–2.
7. Küss R, Gregoir W. L'histoire de l'urologie. Paris: Roger Dacosta; 1988. p. 487–90.

Online available at:
www.anatomy.org.tr
doi:10.2399/ana.16.028
QR code:

deomed