Atlas: A Unique Vertebra that Takes Its Name from a Hemitheos in Greek Mythology, Atlas

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ABSTRACT

The first vertebra of the spinal column is called Atlas. The name comes from a Hemitheos Atlas that symbolizes the heavy task of the first cervical bone. When Atlas acted with Titans against Zeus in the war, Zeus punished him with holding the Heavens on his shoulders forever. Atlas supported the Heavens (the Earth, sphere) from the ranges now called the Atlas Mountains.

KEY WORDS: Atlas, Cervical vertebra, Greek myth, Medical terms, Spine

Atlas is the first bone of the spine in the cervical region (10). Atlas is the supporter of the ‘globe’ of the head, hence its name. It has a unique relation with the second cervical vertebra, axis, and a unique structure. It is no true spine indeed.

Atlas has two lateral masses, two arcs, two transverse processes and two superior and inferior articular facets.

The lateral masses are connected with two arcs, a short arc in the anterior part and a long arc in the posterior part (Figure 1). The lateral masses are roughly ellipsoidal and carry two facets in each of them, the superior articular facet and inferior articular facet. The superior articular facet faces occipital condyles bilaterally. The inferior articular facets articulate with the superior articular facet of the axis, the second cervical vertebra.

Atlas has two tubercles, an anterior one located in the medial part of the anterior arc and a posterior tubercle located in the medial part of the posterior arc. The anterior tubercle and posterior tubercle are the attachment places of the anterior longitudinal ligament and ligamentum nuchae respectively. The longus colli muscles attach to the right and left sides of the anterior tubercle on the anterior arc.

The posterior arc of the atlas makes approximately two-fifths of the atlantal ring. A wide groove is present behind each lateral mass on the posterior arc and houses the vertebral artery and venous plexus. Beside these vascular structures, the first cervical nerve is also found here, between the artery and the bone. Ligamentum flavum ends on the lower margin of the posterior arcs on each side.

The transverse processes of the atlas on both sides are the widest of the cervical vertebrae including the seventh. Atlantal width can be 90 mm in males and 76 mm in females (10). Many muscles including rectus capitis lateralis, superior oblique, inferior oblique, slips of levator scapulae, scalenus medius and splenius cervicis attach to the transverse processes of atlas.

Atlas takes its name from a hemitheos in Greek Mythology, Atlas (Ἀτλας) and this name symbolizes the heavy task of the first cervical bone. Hemitheos means a person who is mortal and who is able to undertake works
that other people can not. Atlas is the son of Titan Iapetos and Klymene, one of the sea girls. He was the brother of Epimetheus, Menoetios and Prometheus (1). Pleiades, Hesperides, Hyades, Calypso and Dione are the daughters and Hyas and Hesperos the sons of Atlas (1,2,3,4). Hyades are daughters of Atlas and Aethrea (6). Pleiades are known as the seven sisters and they are the daughters of Atlas and Pleinoe. Their names are Taygete, Electra, Alcyone, Astreope, Kelaeno, Maia and Merope (1,7). It is accepted that Zeus –King of the Gods- changed them into stars and they escaped the pursuit of the hunter Orion who fell in love with all of them. These stars are known as the Pleiades in astronomy today. In another story, is said that they became a star for watching their father Atlas (1).

Titans are the children of Uranus and Gaia. Uranus or Father Sky is personified as the son and husband of Gaia, Mother Earth, in Greek mythology (8). There are six male Titans –Coeus, Crius, Cronus, Hyperion, Iapetus, Oceanus- and six female Titans -Mnemosyne, Phoebe, Rhea, Tethys, Theia, Themis. They lived in the mountain Othrys. On the other hand, Zeus, the son of Titan Kronos, lived with his wife Hera, children and siblings on Olympos, the mountain of the gods. Following the war between Zeus and the Titans, Zeus was the winner and accused the Titans. Titans were punished by Zeus to be chained to the feet of the big volcanoes such as Etna. Menoetios and Atlas, the sons of Titan Iapetos, acted together with the Titans against Zeus. Menoetios was sunk in Erebes, the deep darkness or shadow by Zeus. Supporting the world (the heavens, sphere) from the ranges now called the Atlas Mountains on his shoulder was the punishment chosen for Atlas (Figure 2) (1,3). Atlas was going to carry the globe in the end of the world and in the front of the Hesperides, a blissful garden in a far western corner of the world, located near the Atlas Mountains in Tanger, Morocco at the edge of the encircling Oceanus. Atlas refers to a “bearer” or “endurer” (9).

Laiho and et al (9) speculated that the name of the first cervical bone should have been Heracles, instead of Atlas. Heracles is the son of Zeus and Alcmene and is famous for his strength. Atlas, only once, took a break from his assignment when Heracles asked him help for finding golden apples (1). Bringing the golden apples of Hesperides to King Eurystheos –King of Mykene- is known as the eleventh labor of Heracles (5). Heracles asked Atlas what he should do to steal the apples. Atlas told that he could bring them if he accepts to carry the world until he came back. Heracles held the heaven on his shoulders...
and Atlas went to garden of Hesperides to pick up the apples. When Atlas came back, he did not want to take the globe on his shoulders again but, Heracles tricked Atlas by saying he was uncomfortable with his position and the globe was pressing his shoulders. He requested Atlas to carry the world for a short time so he could take pillows for his shoulders. When Atlas took back the world from Heracles so that he could put pillows on his shoulders, Heracles picked up the golden apples and disappeared quickly. Atlas therefore lost the chance of being released from carrying the Earth forever.

REFERENCES
2. Homer, Odyssey 1.52