

Professor Køber said: 'We did a rigorous trial which should have shown that aliskiren is as good as an ACE inhibitor. The drug was never given the chance to demonstrate how good it is because of regulatory interference. That will never be tested now. This could have been a major problem for patients if the neprilysin inhibitor had not emerged.'

Andros Tofield
ESC Press Office

Funding

Trial supported by Novartis.

Conflict of interest: Lars Kober consultant for Novartis and Sanofi.

References

References are available as supplementary material at *European Heart Journal* online.

doi:10.1093/eurheartj/ehw654

The cardiac auricles

The first evidence for cardiac auricles in Ancient Egyptian archaeological findings is discussed by scholars from Iran

Reviewing the history of heart anatomy, we come across the words 'ears' or 'auricles' that were used with different definitions at different times of human history. So, a question formed in our mind of when and where 'auricles' were mentioned for the first time.

Today, in late texts of anatomy, auricles are known as part of the human heart which is roughly cube-shaped except for an ear-shaped projection, the remains of a primordial atrium. In fact, these are pectinate tubular muscle walls that are positioned at the root of the pulmonary vein on the left and externally overlap the ascending aorta, on the right.¹

It is believed that Diocles of Carystus (4th century BC) considered the role of the heart as a leader of the body and discovered two cardiac ears or auricles. He described the ability of the heart to listen and understand by these ears or auricles. It follows that he attributed a sensory role to these appendages.² Later, Hippocrates (around 460 BC) recognized

auricles not as a part of the heart, but as a part of vessels to serve air.³ Although he used the word atria as the equivalent of auricle, he didn't recognize the auricles as cavities of the heart and didn't count them as heart cavities.

Scientists and philosophers of early post-Hippocratic time, such as Aristotle, a pupil of Plato (427–347 BC), believed that the heart had three cavities.⁴ Some persons believe that he counted the left auricle as the left cavity and perhaps he didn't see the right auricle.⁵ Later, with the practice of dissection on the human body, especially after Alexandrian times (c. 300BC),⁶ the role of auricles started to become clearer. It seems that Herophilus of Alexandria (c. 300 BC) and later Rufus of Ephesus (1st century AD) were the first persons who described auricles and distinguished them from ventricles.⁷ This clarification was continued by Persian physicians in the Golden Age of Islam (early medieval time, 9th–12th century AD) and finally, during the Renaissance, William Harvey (1578–1657AD) a British physician, presenting the current definition; noticed auricles and emphasized their function of contracting before the ventricles.^{3,8}

Besides this formal history of cardiac auricles based on written evidence; archaeological findings can present a longer history for auricles with tangible



Figure 1 The urn's shape of the heart used in ancient Egypt, Barakat Gallery, California, CA, USA.

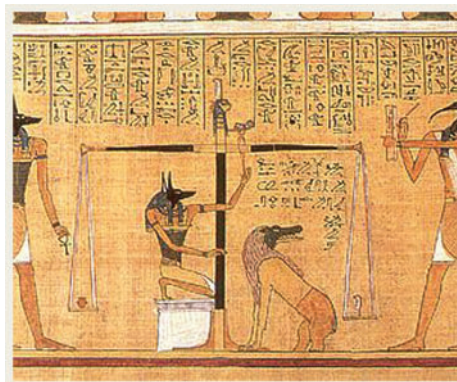



Figure 2 Weighing of the heart in ancient Egypt for judgment of the soul of the dead, Papyrus of Hunefer (c. 1275 BCE).



Figure 3 Left: The hieroglyph symbols in image, Karnak Museum Temple. Right: Symbols of Egyptian hieroglyphs. The heart, top row 10th from left. From screenplay of 'Isis and the tree of life', Sharon Rose.

evidence. Archaeology has documents to extend our knowledge about the religious and cultural ideologies of human history beyond recorded documents by giving us access to the entire spectrum of human experience.

According to archaeological findings of ancient Egypt such as inscriptions and sculptures, the heart was depicted as a symbol in the shape of an urn with one flipper-like part on each side of it (Figure 1)⁶. Ancient Egyptians about 3500 BC paid attention to the heart, as they mentioned it as the seat of the intellect. For example, when a person died, his or her heart was weighed against a feather to judge the afterlife of their soul by the God Osiris (Figure 2). It appears that they were weighing the soul in this procedure. Also, they considered the heart as a central organ and they noticed the system of transporting blood by vessels.⁹

Furthermore, they described the importance of the function of pulse for evaluation of heart system abnormalities.¹⁰ It has also been shown in Egyptian sculptures, paintings, and writings that the heart was the symbol of faith and courage.³ Ancient Egyptians used the symbol of  in their hieroglyphic writings to show the word for the 'heart' (Figure 3). As the hieroglyphic figure shows, ear-shaped auricles appear in the symbols and paintings of the heart. We believe they saw these ear-like parts of the heart, the auricles, but we do not know if they were aware of their role and function because we cannot find any mention of them in their texts or other written documents. Therefore, we can infer that the first

demonstration of 'auricles' as a part of the heart was by ancient Egyptians in the written papyri and other documents about 3500 BC.

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Conflict of interest: none declared.

References

References are available as supplementary material at *European Heart Journal* online.