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VIEWPOINT

ART AND MEDICINE

Heart, Soul, and Medical Practice

Clinical Lessons From Ancient Alexandria

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FIGURE 1 *Erasistratus Discovering the Cause of Antiochus' Disease*

Painting by Jacques-Louis David, 1774, École nationale supérieure des beaux-arts, Paris, France. Reprinted with permission from Wikipedia (4).

Throughout the centuries, the heart and the cardiovascular system have been the focus of intense reflection from scientific, emotional, and philosophical points of view. The role of the heart as "the seat of the soul, thought, and psychic functions" was deeply influenced by Aristotelian notions (1). However, this long-enduring notion was challenged by the work of early

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physicians, true pioneers in their time, such as Herophilus of Chalcedon and Erasistratus of Chios (1,2).

Erasistratus, who was born in Greece and who was one of the first Alexandrian physicians, played a vital role in the understanding of the cardiovascular system. Erasistratus was mainly a physiologist, but he made several remarkable anatomical findings at that time. By describing, probably for the first time, the function of the heart as a pump and not the center of sensations, his observations were a breakthrough in rejecting the cardiocentric Aristotelian view of the heart (1,2). He also described the atrioventricular valves and contributed to the description of several vessels, such as the pulmonary artery (3). Although in his work he made several erroneous assumptions (such as the idea that the arteries contained air), his thoughts opened a comprehensive framework for subsequent investigators. Moreover, the translational nature of Erasistratus' work (combining simultaneously clinical practice and research) provides an important historical insight on this crucial relationship in medical practice.

Although contemporary evidence has clearly shown that the cardiocentric view did not accurately describe the function of the heart, the interconnection between emotion and the cardiovascular system cannot be overlooked. The seminal painting *Erasistratus Discovering the Cause of Antiochus' Disease,* by the French neoclassical painter Jacques-Louis David, elegantly illustrated this protean interaction (**Figure 1**) (4). In it, Erasistratus (dressed in red on the left side of the painting) is summoned to evaluate Prince Antiochus, who has fallen gravely ill from an unknown disease (3). While examining his patient (more specifically, as seen in the painting, while assessing his pulse), Erasistratus is also attentive to the surrounding environment (3). That is when he discovers that the primary cause of the illness was not physical, but rather psychological. Antiochus had fallen ill because he was in love with his stepmother, Stratonice (5,6). Then, Erasistratus cleverly lead Antiochus' father, King Seleucus (who had previously served as one of Alexander the Great's generals), to accept the fact that his son would rather die than disclose his secret. As recounted by Plutarch (5,6), Antiochus' subsequent marriage to Stratonice put an end to his illness.

In the current era of evidence-based medicine, precision medicine, and many sophisticated diagnostic and therapeutic techniques, this painting shows us that the interaction between art and medicine remains pivotal, giving us valuable lessons for our medical practice. First, Erasistratus's cunning diagnosis reminds us of the importance of a holistic view in clinical practice, evaluating both the patient and the patient's environment. Furthermore, we can learn that although the dichotomy between the cardiovascular and neurological systems is well established, the interdependence between them (between the classical concept of the heart and the mind) remains as relevant to us now as it once was to our predecessors in Alexandria.

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