

Comparative Analysis of the Anatomical Concepts of the Abdomen in Unani Medicine and Modern Medical Science

Dr. Uzma Rahat

Associate Professor

Aligarh Unani Medical College & ACN Hospital, Aligarh

Abstract

The understanding of human anatomy has evolved significantly through the ages. Traditional Unani Medicine and Modern Medical Science both explore the anatomy of the human body but from different perspectives, informed by their historical and cultural contexts. This paper aims to provide a comparative analysis of the anatomical concepts of the abdomen as understood in Unani Medicine and Modern Medical Science. We will delve into the historical roots of each system, explore key anatomical features of the abdomen, and discuss their relevance to diagnosis and treatment, including the role of *Mizaj* (Temperament) in Unani Medicine. Ultimately, this comparative study seeks to highlight the differences and similarities in the understanding of abdominal anatomy in these two approaches to healthcare.

Keywords: Unani Medicine, Modern Medical Science, Abdomen, Anatomy, *Mizaj*, Comparative Analysis

1. Introduction

Anatomy has long been a fundamental part of medicine, aiding in diagnosis, treatment, and the overall understanding of human physiology. While Modern Medical Science, particularly after the Renaissance, has adopted a highly evidence-based, scientific approach to anatomy, Unani Medicine has historically been influenced by the teachings of ancient scholars like Hippocrates, Galen, and Ibn Sina (Avicenna). Both systems consider the abdomen a central area in health and disease, but they describe it and its functions in distinct ways. One key aspect of Unani Medicine is the concept of *Mizaj* (Temperament), which provides a holistic understanding of how the body functions [1,2].

This paper compares the anatomical concepts of the abdomen as understood in Unani Medicine and Modern Medical Science, focusing on terminologies, anatomical structures, *Mizaj* and their implications for diagnosis and treatment.

2. Historical Background

2.1 Unani Medicine

Unani Medicine traces its roots to ancient Greece, but it was later developed and refined in the Islamic world, particularly during the Middle Ages. Ibn Sina's "Al-Qanun fi al-Tibb" (The Canon of Medicine) is one of the most influential works in Unani Medicine, offering a detailed understanding of human anatomy, including the abdomen [1]. Unani views the human body as an interplay of the four humors: blood (*Dam*), phlegm (*Balgham*), yellow bile (*Şafrā'*), and black bile (*Saudā'*), with the abdomen being a major site for their interaction [3,4]. *Mizaj* (Temperament) is central to the functioning of all organs, with each organ having a specific *Mizaj* that determines its health and susceptibility to disease [5].

2.2 Modern Medical Science

Modern anatomy has its foundations in the dissection of human bodies during the Renaissance period, most notably through the work of Andreas Vesalius. The detailed study of the body, including the abdomen, advanced significantly with modern tools and technologies such as imaging techniques, enabling a comprehensive understanding of the structures and their functions [12,13]. The abdomen in Modern Medical

Science is seen as a region comprising various organs, systems, and tissues essential for digestion, reproduction, and excretion [10,14].

3. Anatomy of the Abdomen: A Comparative Overview

3.1 Definition and Boundaries

- Unani Medicine:

The abdomen (*Batan*) in Unani Medicine is generally considered the central part of the human body where digestion and the refinement of humors take place. It is described as a cavity that houses vital organs essential for the balance of humors and the maintenance of health [1,2].

- Modern Medical Science:

In Modern Medical Science, the abdomen is the part of the body between the thorax (chest) and the pelvis. It is anatomically defined by specific borders: superiorly by the diaphragm, inferiorly by the pelvic brim, and anteriorly by the abdominal wall [12,13]. It contains organs such as the stomach, intestines, liver, pancreas, spleen, and kidneys, playing crucial roles in digestion, absorption, and waste elimination [10,11].

3.2 Main Organs and Their Functions

- Unani Medicine:

The primary organs within the abdomen in Unani Medicine include the liver (*kibd*), stomach (*mi'dah*), intestines (*ama'a*), and spleen (*tiḥāl*). The liver is seen as the seat of the blood and the center of metabolism, while the stomach is the initial site of digestion [1,5]. The intestines continue the digestive process and are responsible for absorbing nutrients, with the spleen involved in balancing humors [2].

Mizaj of Organs in Unani Medicine:

- Liver (*Kibd*): Hot and Moist – The liver is the seat of metabolism, where the humors, particularly blood, are produced and refined. Its hot and moist nature is crucial for facilitating digestive and metabolic processes [5,6].
- Stomach (*Mi'dah*): Hot and Dry/Cold and Dry – During the active phase of digestion, the stomach is considered hot and dry, which allows for the breakdown of food [1,5].
- Spleen (*Tihal*): Cold and Dry – The spleen is responsible for filtering and balancing the humors, particularly black bile (*Saudā'*). Its cold and dry temperament helps in maintaining equilibrium in the body [6,7].
- Intestines (*Ama'a*): Cold and Moist – The intestines absorb nutrients and excrete waste, with their cold and moist temperament allowing for the smooth transit of food and waste products [1,5].

- Modern Medical Science

Modern science identifies several distinct systems within the abdomen, each with specific functions [12]. For instance:

- Liver Metabolizes nutrients, detoxifies the blood, and produces bile [13].
- Stomach Breaks down food using digestive enzymes and acids [12].
- Intestines (small and large) Absorb nutrients and eliminate waste [14].
- Spleen: Filters blood, recycles red blood cells, and plays a role in the immune response [12].
- Pancreas: Produces insulin and digestive enzymes [14].

3.3 Vascularization and Innervation

- Unani Medicine:

Unani texts describe blood supply and nerve connections in broad terms, emphasizing the importance of the

liver and the humoral balance in regulating bodily functions [2,5].

- Modern Medical Science

Modern Medical Science provides detailed maps of the blood supply and innervation of the abdomen [13,14]. The abdominal aorta and its branches supply blood to the abdominal organs, and innervation is provided by the autonomic nervous system [12].

4. Approaches to Diagnosis and Treatment

4.1 Unani Medicine

Diseases of the abdomen are seen primarily as imbalances in the humors, which lead to symptoms such as indigestion, flatulence, or pain [1,5]. Diagnostic tools include pulse diagnosis, examination of urine, and analysis of stool. The *Mizaj* (Temperament) of the patient and the organs involved is a key factor in diagnosis and treatment [2,6].

4.2 Modern Medical Science:

Modern diagnosis of abdominal diseases involves various advanced tools, including imaging technologies like ultrasound, CT scans, and MRI [12,13]. Laboratory tests, including blood work and biopsy, are also crucial for diagnosing conditions such as appendicitis, liver cirrhosis, or pancreatic cancer [10,14].

5. Philosophical Differences in the Understanding of the Abdomen

The fundamental difference between Unani and Modern Medical Science lies in their philosophies:

- Unani Medicine views the abdomen through a holistic lens, as part of the overall balance of the body's humors, with a focus on functional harmony [3].
- Modern Medical Science dissects the abdomen into detailed anatomical and physiological components, emphasizing precision and evidence-based treatment of individual organs and systems [12].

6. Conclusion

The study of the abdomen in both Unani Medicine and Modern Medical Science presents a fascinating comparison between traditional, holistic approaches and modern, analytical methods. While Modern Medical Science offers highly detailed, organ-specific knowledge of the abdomen, Unani Medicine emphasizes the balance of humors and the interconnectedness of the body's systems, with *Mizaj* being an essential concept [1,6].

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