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Understanding the process of Hazm (Digestion) in Unani medicine: A physiological correlation with modern GI function

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Abstract

Unani medicine describes Hazm (digestion) as a coordinated process involving four stages—gastric, hepatic, vascular, and organ-level digestion—each contributing to the transformation of ingested food into nourishment for the body. Modern gastrointestinal physiology defines digestion as a mechanical and chemical breakdown involving the mouth, stomach, intestines, enzymes ^[14], microbiota ^[9], hormones, and neural regulation. This review explores the parallels between these systems, emphasizing how classical Unani concepts mirror modern understanding in function, sequence, and systemic integration. A comparative analysis reveals conceptual harmony in the roles of digestive heat (Hararat-e-Ghariziyah ^[3]), Quwā-e-Hazimah (digestive faculties), and nutrient absorption through organs and vessels.

Keywords: Hazm, Unani medicine, digestion, GI physiology, Hararat Ghariziyah, Quwa Hazimah, enzymes, hormones, microbiota

1. Introduction

Digestion is a fundamental physiological process vital for nutrition and survival. In Unani medicine, the concept of Hazm is a comprehensive system encompassing physical, chemical, and energetic dimensions of food transformation. The modern understanding of gastrointestinal physiology is based on coordinated mechanical actions, enzymatic activity ^[8], microbial interaction, and hormonal signaling. Both systems aim to explain how the body breaks down and assimilates food into usable forms, though their terminologies and theoretical frameworks differ significantly.

2. Unani Concept of Hazm ^[1] (Digestion)

Unani scholars like Ibn Sina ^[6] (Avicenna) and Galen ^[5] conceptualized digestion as occurring in four sequential stages:

Stage	Unani Term	Organ	Process
Gastric Digestion	Hazm-e-Ma'di	Stomach	Initial breakdown using Hararat Ghariziyah and Quwwat-e-Hazimah
Hepatic Digestion	Hazm-e-Kabidi	Liver	Transformation of chylous into blood and Akhlat
Vascular Digestion	Hazm-e-Urooqi	Blood Vessels	Further refinement of Akhlat (humours)
Organic Digestion	Hazm-e-Azwi	Tissues/Organs	Assimilation into specific tissues based on need

Each stage is governed by Tabi'at (innate faculty) and supported by Hararat Ghariziyah (innate heat), enabling transformation from one form to another until nourishment is completed.

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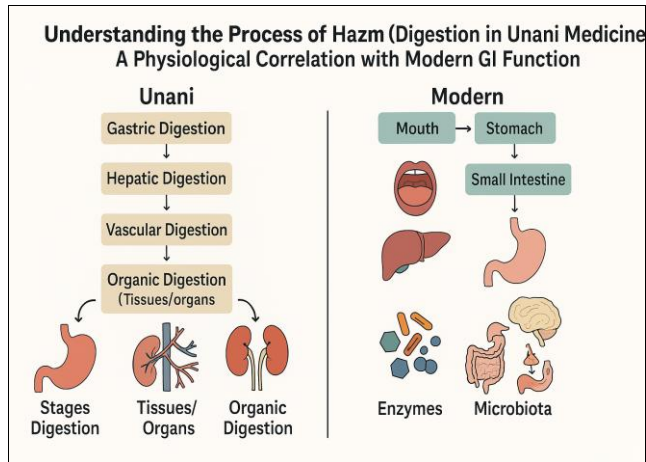


Fig 1: Comparative Overview of Unani and Modern Digestive Concepts

Aspect	Unani Concept	Modern Physiology
Primary Energy for Digestion	Hararat Ghariziyah (Innate heat)	Metabolic and enzymatic energy from mitochondria
Governing Force	Tabi'at and Quwa-e-Hazimah (digestive force)	Enteric nervous system, endocrine signaling
Stages	4-stage process: gastric → hepatic → vascular → organ	Oral → gastric → intestinal → absorption
Transformation of food	Food → chylous → Akhlat → tissue	Food → chyme → absorbed nutrients → tissue
End-product	4 humours (Dam, Balgham, Safra, Sauda)	Carbohydrates, fats, proteins, vitamins, minerals

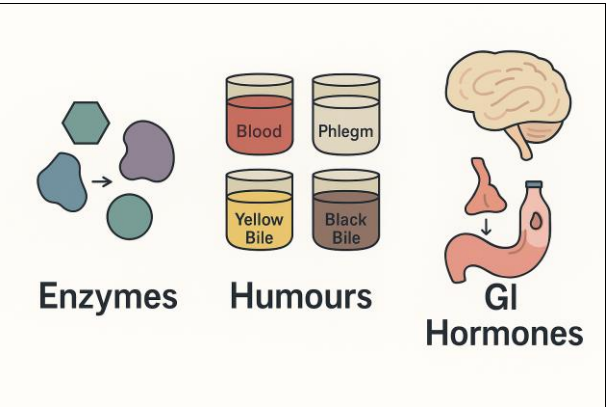
5. Role of Digestive Agents

Enzymes: Not described as such in Unani, but implied in Quwa Hazimah.

Acids: Gastric acid (HCl) = Hararat-e-Ghariziyah effect.

Microbiota: Not explicitly detailed in classical Unani, but compatible with Akhlat and fermentation roles.

Hormones: Conceptually mapped to Tabi'at's regulatory role 2. Digestive Phases with Enzymatic and Humoural Mapping.



6. Conclusion

Unani and modern GI physiology [13], though developed in different paradigms, show significant overlap in their recognition of digestion as a staged, regulated, and energy-driven process. The Unani framework provides a holistic and personalized view through the prism of Mizaj[12] and Tabi'at[11], while modern physiology[7] offers molecular precision. Integrative models can bridge traditional wisdom and contemporary science for better understanding of digestive health.

Conflict of Interest

Not available

3. Modern Gastrointestinal Physiology

Modern physiology [7] divides digestion into mechanical and chemical phases:

- **Oral Phase:** Mechanical breakdown and enzymatic action by salivary amylase
- **Gastric Phase:** Mixing and protein digestion with pepsin and HCl [18]
- **Intestinal Phase:** Enzymatic breakdown via pancreatic enzymes [14] and bile; absorption of nutrients.
- **Microbiota [9] Role:** Fermentation, vitamin synthesis, immune modulation
- **Hormonal Regulation [10]:** Gastrin, Secretin, CCK, and GIP [19] coordinate GI function.
- **Nervous System Regulation:** Enteric nervous system, vagus nerve [20] (parasympathetic control).

4. Comparative Analysis

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