

Pathogenesis of *Amraz-e-Riya* (Lung Disease) in Unani Medicine - A Review

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ABSTRACT

Background & objective: In the Unani system of medicine (USM), the lungs are considered an essential organ that plays a crucial role in maintaining health by respiration. The lungs are closely associated with the sanguine humour, and, any imbalance in this humour may lead to various respiratory disorders and other health issues. In USM, the diseases are understood based on *Asbāb* (Causes), *Alamat* (signs, and symptoms), and *Mahiyat-e-Mardi* (pathogenesis). This study aims to describe the pathogenesis of *Amraz-e-Riya* (lung disease) for a better understanding of the disease and proper treatment.

Methodology: Literature related to the pathogenesis of lung disease was surveyed from classical books of *Tibb-i-Unani*, their translations, commentaries, previous dissertations, journals, proceedings, etc.

Result and conclusion: Unani physicians explained respiration is completed by two movements and two resting phases. The inhaled air moderates the heat of *Rūḥ* (Pneuma), which is very important for maintaining health and life because its disturbance has immediate consequences on health. By exhalation, the lungs expel smoky vapours from the body because inappropriate or bad air is likely to dissolve the *Ḥarārat Gharīziyya* (innate heat). So, it can be

concluded that respiration plays an important role in the survival and continuation of life.

Keywords: Lung's pathogenesis, lung temperament, Pneumonia, Pleurisy, phthisis, Unani medicine.

1. INTRODUCTION

Lung diseases have been a significant concern throughout the history of medicine, affecting individuals across the globe. These ailments include a wide spectrum of disorders, from infectious diseases like tuberculosis to chronic conditions such as chronic obstructive pulmonary disease (COPD).

Chronic respiratory diseases are among the most common non-communicable diseases worldwide, largely due to the ubiquity of noxious environmental, occupational, and behavioural inhalational exposures⁽¹⁾.

GBD (2017) Study estimates the prevalence and attributable health burden of chronic respiratory diseases⁽²⁾. They found that nearly 545 million people in the world had a chronic respiratory disease in 2017, an increase of 39.8% since 1990. The most prevalent chronic respiratory diseases were COPD (3.9% global prevalence) and asthma (3.6%). Chronic respiratory diseases accounted for 3.9 million deaths in 2017 (an increase of 18.0% since 1990) and were responsible for 1470 disability-adjusted life-

years (DALYs) per 100000 individuals (112.3 million total DALYs, an increase of 13.3% since 1990) ⁽³⁾. In 2022, an estimated 10.6 million (95% uncertainty interval [UI]: 9.9-11.4 million) people fell ill with TB worldwide. It was the second leading infectious disease killer worldwide, after COVID-19 ⁽⁴⁾.

Throughout the centuries, research and medical advancements have provided valuable insights into the causes, diagnosis, and treatment of lung diseases. In this review, we will explore the historical context, etiology, pathogenesis and evolution of our understanding of lung diseases.

2. Causes of lung diseases

There are four special types of causes.

1. Sū'-i-Mizāj (impaired temperament) of lungs.
2. Tafarruq-i-Ittisal (loss of continuity).
3. Sudda (obstruction).
4. Waram (inflammation). ⁽⁵⁻⁸⁾

Ibn Hubal Baghdādī adds one more cause i.e., Sū' al-Tarkīb (structural diseases). ⁽⁷⁾

Diseases that affect respiratory organs may also cause breathing diseases.

The disease in surrounding organs such as the stomach, liver, womb, and intestine, that may be all types of Sū'-i-Mizāj (morbid temperament) i.e., Sū'-i-Mizāj Sāda (simple morbid temperament) or an Sū'-i-Mizāj Māddī (morbid temperament with substance) ⁽⁹⁾.

Simple morbid temperament occurs in such a way that the temperament of the chest and the lungs become hotter, colder, or drier and wetter than normal. And morbid temperament with substance occurs due to the accumulation of cold or hot humour in it. Tafarruq-i-Ittisal (discontinuity) occurs due to, a wound in the chest/lung, a cut or tear of a lung vein, and trauma from outside the body. Chest or lung disease does not occur without coughing, even if there is no expectoration. Lung diseases may occur due to brain involvement like epilepsy, unconsciousness etc.

3. Pathogenesis (Mahiyat Mardi) of lung diseases

All types of diseases can affect the respiratory organs (i.e., larynx, trachea, lungs, and diaphragm). Pathogenesis of lung diseases will be according to the types of diseases.

1. All types of morbid temperaments, either simple or compound/composite, substance or non-composite.
2. Structural diseases.
3. All types of loss of continuity.
4. Inflammation
5. Obstruction: The trachea and its veins, arteries, and porous flesh components may be obstructed.

Lung diseases mostly occur in the Faṣl al-Kharīf (autumn season) and Faṣl al-Shitā' (winter season). Cold air damages the lungs under every condition, except for hot air-exposed lungs. Most of the time, lung disorders may turn into liver diseases, such as cold or hot morbid temperament that reaches the liver and leads to ascites ^(5,6).

Diseases of the chest and lungs are usually caused by the flow of catarrhal fluids from the brain, these catarrhal fluids come to the larynx and the trachea and then cause roughness in its inner membrane, causing the hoarseness of the voice and mild cough. If Quwwat Dāfi'a (expulsive faculty) becomes weak, leads to fluid accumulation and penetration in the loose, porous and fragile structure of the lungs that causes congestion and ultimately leads to inflammation. Sometimes these catarrhal fluids may cause ulcers in the chest or lungs, commonly known as the sill/phthisis (including in Amrād-i-Ṣafā'iḥ) and Amrād al-Miqdār (diseases of size).

Sometimes the intensity and need of coughing cause an expansion in the chest. As a result of the domination of Quwwat Dāfi'a, the veins of the lungs rupture and start to bleed from the mouth, this condition is known as *Nafth al-Dam* (haemoptysis).

If the catarrhal fluids are thick, raw, and in significant quantities, the vessels get congested and cause narrowing in the respiratory tract, causing dyspnoea and

Intiṣāb al-Nafas (orthopnoea). When the catarrhal fluids accumulate in the pulmonary arteries, they cause *Dama* (bronchial asthma). It is classified into the *Amrād-i-Majāri* (diseases of tracts). Sometimes this disease is caused by the accumulation of heated vapours in the chest and filling it. This disease is sometimes caused by an accumulation of warm vapours in the chest from the heart as a result of heat. Sometimes these catarrhal fluids and other morbid humours collected in the chest organs and produce inflammations and abscesses, i.e., *Dhāt al-Ri'a* (pneumonia) and *Dhāt al-Janb* (pleurisy), etc., which produce a difficult and severe cough^(7,14).

In the lungs, *Quwwat Hāḍima* (digestive faculty) and *Quwwat Māsika* (retentive faculty) are not as high as the absorptive faculty because the primary function of the lungs is to inhale fresh air with the help of the absorptive faculty. The food that reaches the lungs from the heart is fully matured and easily changes its forms because the lungs are busy with respiration and continuous activity. As a result, the almighty has also designed a special diet for this part of the body⁽¹⁵⁾.

Due to the soft and porous structure, lungs can store/accumulate the secretion that comes from surrounding organs usually from the head. Still, these collected fluids cannot enter/permeate into the structure of the lungs, so, Phlegmatic inflammation doesn't occur in the lungs but other thin humours penetrate them and cause inflammation.

Lungs are mostly affected by *Asbāb Bādiya* (Causes that affect the body from outside like trauma, cold, heat, or noncorporeal causes that produce corporeal states directly, e.g., blow, atmospheric heat, hot or cold food, or psychological factors like anger or fear). Because they are directly in contact with it. Sometimes, the voice can be altered due to disease in these organs, particularly the larynx and associated muscles. As a result, the voice is either completely gone or reduced and defective. Sometimes, it is caused by the flow of catarrhal fluids towards the nerves of the larynx and its muscles, and

sometimes due to *Tafarruq al-Ittiṣāl* (loss of continuity), inflammation, pain, and injury⁽⁷⁾.

4. DISCUSSION

This study aimed to explain the pathogenesis of Amraz-e-Riya. In the Unani system of medicine, the lungs are considered an essential organ, responsible for respiration.

After a detailed and extensive review of the relevant literature on Amraz-e-Riya, it may be concluded that there is some difference between ancient Unani physicians and modern physicians in terms of the anatomy, physiology, aetiology, and pathogenesis of lung diseases. For example, in Western medicine, there are no concepts of *zoaf* (weakness) or *Sū'-i-Mizāj* (morbid temperament) in the organs and modern medicine discusses cough as a symptom but Unani physicians have taken cough as a disease because they extensively explain the cough causes, pathogenesis, and types.

There are a variety of statements given on the pulmonary temperament by several Unani philosophers. Such as, According to *Buqrat* and *Ibn Sina*, respiration is similar to pulse, so, as we know the temperament of the heart is *Haar Raṭb*, therefore, we can say the temperament of the lungs is *Haar Raṭb*. But, *Jurjānī* says the temperament of the lungs is relatively colder and moister than the heart. Many philosophers mentioned lungs in the classification of moist organs. *Jālīnūs* said the primary temperament of any organ depends upon its nutritional temperament. So, the lungs receive bile (Hot and dry) as nutrition that's why the temperament of the lungs is Hot and dry⁽¹⁵⁾.

Before proceeding further, let me explain one thing here the lungs are nourished by *Safra* doesn't mean that *Safra* doesn't have moistness but it is a relative term used for more moist organs. So, based on the preceding explanation, we can easily conclude that the temperament of the lungs is *Haar Raṭb*⁽¹⁶⁾.

In *Al Mu'ālajāt al-Buqrāṭiyya*, *Muḥammad Ṭabarī* mentioned *Dhāt al-Ri'a* as a *Sū'-i-Mizāj Hārr Māddī* (morbid hot temperament

with substance)⁽¹⁴⁾. Pneumonia is caused by all humours but is usually due to phlegm. It does not mean that hot inflammation cannot be caused by phlegm and black bile, but if phlegm and black bile become putrefied results in the dystemperament of those humours may also cause Dhāt al-Ri'a. Pneumonia is acute and severe if caused by bile and blood, while caused by phlegm and black bile, it will be chronic.^(6,9,17)

Pneumonia is also caused by Waram Şulb (hard inflammation) in two ways:⁽⁶⁾

When inflammation has occurred and its Talṭīf-i-Mādda (light matter) is dissolved and the remaining matter turns hard and stony.

Inflammation is caused by melancholic, cold, and phlegmatic morbid matter.

Jālīnūs state that, if a person has Dhāt al-Janb (Pleurisy) and the elimination of morbid material from the body does not occur within fourteen days, then pus will form. If this condition remains for forty days (counted from the day on which the discharging of morbid matter has started) and the morbid matter of the disease is not cleaned in that period, then it will be converted into Sill or Phthisis⁽¹⁴⁾.

In the available literature, we analyzed the classical literature on lung diseases, to gain a better and more simple understanding of the pathophysiology of lung diseases. Besides the pathophysiology of lung illnesses, etiology, symptomology, and classification are discussed in this study.

5. CONCLUSIONS

The present study focuses on the Pathogenesis of Amraz-e-Riya. Based on the extensive review, it is possible to conclude that the lungs are crucial organs for the survival of individuals. Jālīnūs and other physicians often explained two benefits of respiration. The first is to receive fresh air through breath to maintain the optimum level of innate heat, and the second is to expel bad air because inappropriate and bad air is likely to dissolve the innate heat of the body.

The purpose of this study is to explore the pathogenesis of Amraz-e-Riya comprehensively. Unani medicine can be

used to provide better treatment and cure of lung diseases. Unani physicians stated every organ has a specific Mizaj (temperament), and if deviates leads to Su'-i-Mizaj (dystemperament), which ultimately disturbs the specific functions of the organ. Mizaj of the lungs is Haar ratab. Due to some external and internal causes its specific Mizaj becomes disturbed, resulting in different diseases of the lungs either Sāda (without morbid matter) or Maddi (with morbid matter). In the Unani system of Medicine, a proper understanding of Mizaj and Su'-i-Mizaj is the most important factor in determining the aetiology, pathophysiology, diagnosis, and treatment of any disease. Unani temperament-based treatment can be a better way to promote and preserve health.

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