

Avicenna Viewpoint about Isomorphic Lesions or Koebner Phenomenon in Vitiligo

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Dear Editor in Chief

Vitiligo, an autoimmune disease characterized by gradually enlarging depigmented patches, has been documented in Ayurvedic and ancient Egyptian texts for over 1500 years [1]. It was often confused with leprosy and other diseases that manifest with white patches [2]. The term 'vitiligo' is believed to be derived from the Latin root for 'small blemish' [3], although some suggest it was first used by Celsus in his book *De Medicina* in the first century AD.

While vitiligo is not life-threatening, it can cause significant psychological distress, leading to anxiety and depression. The depigmentation process in vitiligo is due to the immune system's destruction of melanocytes, triggered by factors such as exposure to specific chemical agents and injuries. Active vitiligo is also characterized by isomorphic lesions, or the Koebner phenomenon (KP), which involves the appearance of new patches or the spread of existing patches to areas of the skin that have suffered physical damage.

The KP was named after the German dermatologist Heinrich Koebner, who initially described it in psoriasis cases [4]. However, it appears that the phenomenon was mentioned in medical treatises prior to Koebner, including by the French surgeon Claude Nicolas Le Cat

(1700-1768). Le Cat precisely described several cases of vitiligo and explained the pathological process. He also observed depigmentation of burn scars in such subjects, which indeed illustrates the KP [5].

This article aims to present additional historical evidence of KP from a text belonging to medieval times: "Al-Qanun-fi-al-Tibb" or the Canon of Medicine, written by Avicenna. Although Avicenna is a well-known figure, it seems that there is little public knowledge about his personal life. Avicenna, was born near Bukhara in 980 AD. It was here that Avicenna began his studies in science. In 1012 AD, he departed from Bukhara and moved to Gurganj, later traveling to Rey and Isfahan. His life journey ended in Hamadan, a city in present-day Iran, where he passed away in 1037 AD [6]. He completed his masterpiece, the Canon of Medicine, in 1025 AD. This work, divided into five books, each focusing on a different aspect of medicine: 1) anatomy and general therapeutic procedures; 2) Materia medica; 3) diagnosis and treatment of diseases specific to each organ; 4) diagnosis and treatment of conditions affecting the entire body, such as fever; and 5) a formulary of compound drugs [7]. This book was translated in the 12th century for the first time and was used extensively in European medical circles for over seven centuries [8]. Avicenna provided a detailed

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description of vitiligo in his book. He not only described vitiligo and its unique characteristics, but also distinguished it from leprosy and other hypopigmentation diseases based on their causes and symptoms. In the fourth book of the "Canon of Medicine," Avicenna proposed that skin treatments, particularly wet cupping and cauterization, could result in new vitiligo

lesions in the treated area [7]. This theory was later echoed by Le Cat approximately seven hundred years later

It is worth noting that during the early Middle Ages in Europe, perceptions of white skin patches were often intertwined with superstitions and were sometimes related with sin and disbelief [9].

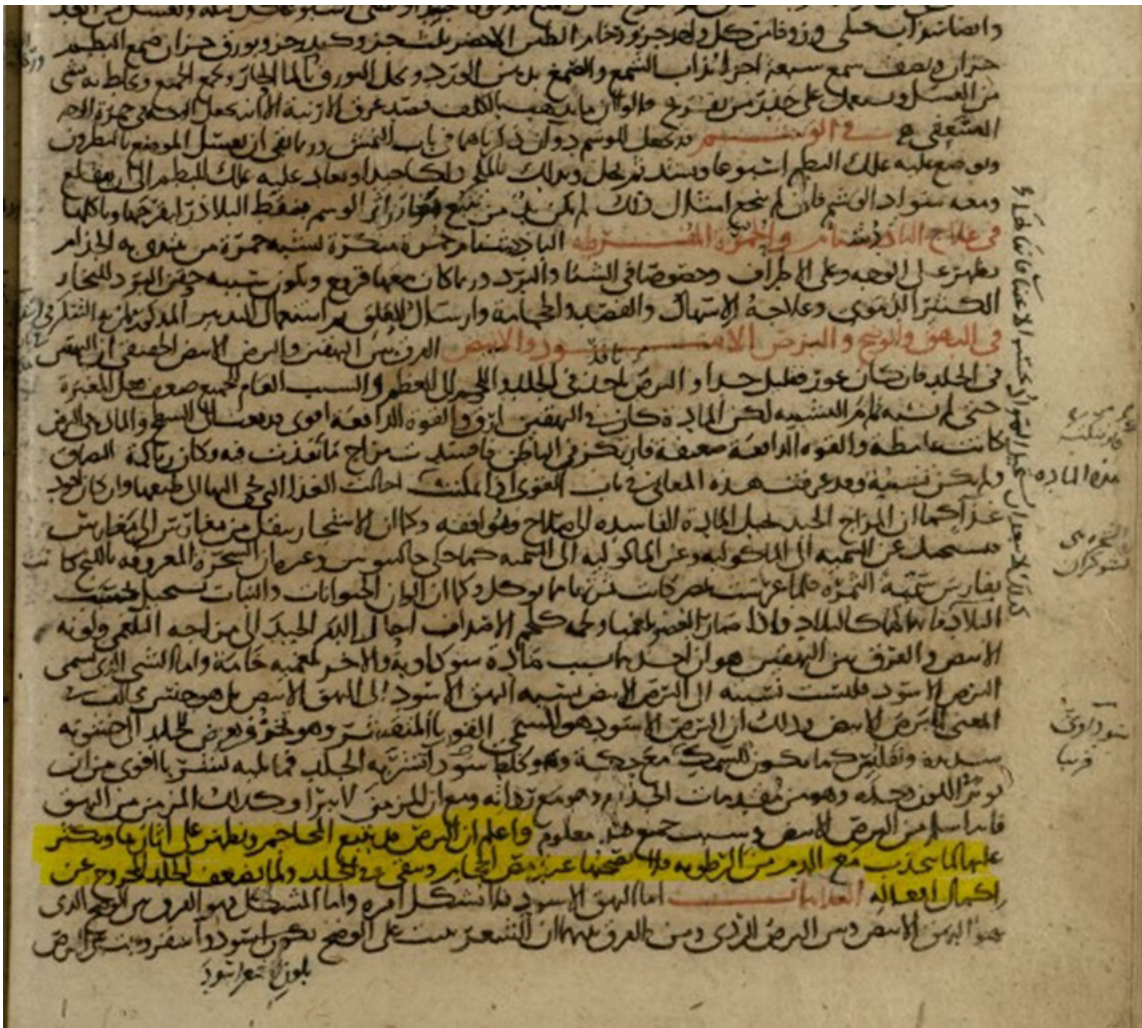


Figure 1. One of the oldest copies of the Canon - Central Library of University of Tehran (1108 AD).

Avicenna’s detailed account of isomorphic lesions is likely unparalleled in historical records, suggesting his significant contribution to the understanding and characterization of this phenomenon. Nonetheless, further research is required to definitively ascertain the initial discoverer of isomorphic lesions.

Conflict of Interests

None.

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pomelanoses of hair and skin. Plenum. New York 1983; p 693. [2] Arnold Jr HL. Leprosy and social class in the middle Ages. Int J Lepr Other Mycobact Dis 1986;54:647-648. [3] Mercurialis H. De morbidis cutaneis et omnibus corporis humani excrementis tractatus Venezia: Paulus et Antonium Meietos 1572. [4] Rubin AI, Stiller MJ. A listing of skin conditions exhibiting the koebner and pseudo-koebner phenomena with eliciting stimuli. J Cutan Med Surg 2002;6:29-34. [5] Le Cat CN. Traité de la Couleur de la Peau Humaine en Général, de Celle des Nègres en Particulier, et de la Métamorphose d'une de ces Couleurs en l'Autre, soit de Naissance, soit Accidentellement. Amsterdam 1765

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corruption of bad matter that is in it and turn the matter to good nutrition and make that matter compatible with itself. With some trees, for instance, when you move them from one place to another, their fruit becomes poisonous, or their fruit might have been poisonous before and will become edible fruit from this movement. As Galen and others have said, when the *lanj* tree is in Iran, its fruit is poisonous, but if you move its root and seedling to Egypt, its fruit is sweet and non-poisonous.

Many animals and plants are different according to the earth in which they grow. The same is true for the organs of the body. They have the same effect on materials that are collected in them as that new location has on the plants. For example, if an organ has a phlegmatic temperament and the flesh of the organ is similar to the flesh of pearls, it will change its well-nourished blood to a phlegmatic temperament, and the color of the blood will become white.

What is the difference between white and black vitiligo? Why is one white and the other black?

The difference is that black vitiligo is made from black bile (atrabilious) humoral matter, while white vitiligo is from immature phlegm (phlegmatic) humour.

We said the matter causing vitiligo and white leucoderma is the same thing, and the difference is in the thinness of one and the thickness of the other, and related to the power of the matter to repel towards the surface. We also said there is black leucoderma as well. Are black and white leucoderma of the same nature?

The nature of both of them is the same, since both of them are made from black bile (atrabilious) humour, but black bile humour causing black leucoderma is worse and more powerful. This is the difference between black and white vitiligo. This humour causing black leucoderma is mixed with skin that satisfies the flesh near itself. This type of black leucoderma is called skin-shedding eczema. It makes the skin too rough and creates scale-like things on the skin that look like fish scales, and the damaged area itches. This leucoderma disease is one of the preparations for leprosy.

Know that sometimes leucoderma follows cupping. It appears on the cupped spot and then increases. The cause for it is that the cupping absorbs part of the moisture of the blood matter. This matter does not come out from the sucking of the cupping until the last stage and stays on the skin. The skin is wounded from the cupping and it is weak in defending itself. Therefore, leucoderma remains on the skin.

Figure 2. Translation of Canon of Medicine by Hamidreza Doostdar, Edited by Laleh Bakhtiar [10]

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