



## **Liver- Heart Inter- Relationship in Fatty Liver Disease Based on the Avicenna's Point of View**

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According to the Traditional Iranian Medicine (TIM), each body organ owns its specific temperament (1). Temperament is composed of four qualities (elements) of “warmth”, “coldness”, “wetness” and “dryness” (2). “Wetness” and “dryness” are considered as a spectrum of “tissue moistures” and “warmth” and “coldness” may be regarded as the basic metabolism of the organ. Iranian Scientists of TIM, have considered a significant position for liver and heart as two major body organs (among three major organs, Heart, Brain and liver) (3), and the important point is the specific inter-relationship proposed between heart and liver as two major organs. Heart and liver, in fact, are not only able to affect the human body's temperament, but they are also capable of providing interactive effects on each other.

In normal condition, the heart's temperament is “warm” and “dry” and the liver temperament is “warm” and “wet” (4).

In his famous book titled as “Canon” (The Law), Avicenna has pointed to some of the interactive effects occurring between heart and liver. Some of the most important of them are (a) dominance of the “heart warmth” over “liver coldness and wetness” and (b) the dominance of “liver dryness” over “heart wetness” (5).

Since, based on TIM, “liver intemperaments” (pathological change of liver temperament) may be considered as the basic factor for the development

of different liver disorders (6), the impact and position of “heart temperament” as well as its effect on “liver intemperaments” may be definitive in diagnosis and assessment of the general prognosis of the liver disease and its treatment process.

Fatty liver is one of those disorders with significant prevalence in the world.

According to TIM, fatty liver is in fact a type of intemperament of “liver with overcoming of coldness and wetness” that may be accompanied with general or organ based clinical manifestation (such as the face and eye sagging, pale face shifting to a yellowish or greenish color, abdominal muscles sagging, etc) (7).

Although sonographic Results and laboratory findings such as serum glutamic pyruvate transaminase (SGPT) and serum glutamic oxaloacetic transaminase (SGOT) are very helpful for defining any liver disorders, but in Modern medicine, definitive diagnosis of fatty liver disorder is accomplished through the liver biopsy (8). As Avicenna states, in liver “cold and wet intemperament”, the warmth of heart, will increase for compensating and correcting “liver intemperament” and its related clinical manifestations (9).

Increasing heart temperature as a compensation mechanism for correcting “liver cold and wet intemperament”, may be accompanied with some clinical signs such as tachycardia, Increase in puls

Rate and Frequency, Increase in Breathing Rate and Frequency (tachypnea), Flushing, etc (10).

Such compensating mechanism may be evaluated in a more detailed process through conducting a clinical study.

If the above-mentioned interactive relationship between the heart and liver is confirmed through clinical studies, the treatment process assessment of the fatty liver disease will be under consideration through studying the heart behavior (activity). This means that with the development of treatment phases of fatty liver and increasing liver temperature and wetness in TIM's point of view, the warmth of heart as a compensating mechanism will also decrease leading to the correction of tachypnea, tachycardia and Increasing in puls rate and Frequency.

In Modern Medicine's point of view, Treatment process accompanied with decreasing in liver echo pattern and sonographic grade of fatty Liver and decreasing in serum glutamic pyruvate transaminase (SGPT) and serum glutamic oxaloacetic transaminase (SGOT) Rate (11).

Conduction of a clinical study in this field may be helpful for a more detailed assessment of Avicenna's hypothesis regarding to the interrelationship between the heart and liver.

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## References

1. Moradi H, Minaïi B, Nikbakht Nasrabadi A, Siahpoosh MB (2013). Avicenna viewpoint about Health Preservation through Healthy Nutrition Principles. *Iranian J Publ Health*, 42 (2): 220-221.
2. Rezaeizadeh H, Alizadeh M, Naseri M, Shams Ardakani MR (2009). The Traditional Iranian Medicine Point of view on Health and Disease. *Iranian J Publ Health*, 38 (suppl.1):169-172.
3. Chaghmini MM, *Qanunchi Fi Al-Tibb* (Arabic). Tehran: Iran university of Medical science; 2004. P.87
4. Aghili MH, *Kbolase al bekmab* (Persian). Quom: Esmailian; 2006. pp.305-308, 327-330.
5. Avicenna, *Al Qanun Fi Al-Tibb* (Arabic). Beirut: Alaalami library; 2005:2. pp.128-129.
6. Rezaeizadeh H, Alizadeh M, Naseri M, Shams Ardakani MR (2009). The Traditional Iranian Medicine Point of view on Health and Disease. *Iranian J Publ Health*, 38 (suppl.1):169-172.
7. Kermani N, *Sharh- Al- Asbab val- Alamat* (Arabic). Quom: Jaleddin; 2008:2. pp.3-6.
8. Thomas E Andreoli, Ivor j Benjamin, Robert C Griggs, Edward J wing. *Cecil Essentials of Medicine* (Persian), 8 th. ed: Teimourzadeh; 2010:1,45. P.142.
9. Avicenna, *Al Qanun Fi Al-Tibb* (Arabic). Beirut: Alaalami library; 2005:2. pp.128-129.
10. Avicenna, *Al Qanun Fi Al-Tibb* (Arabic). Beirut: Alaalami library; 2005:2. pp.8-10.
11. Thomas E Andreoli, Ivor j Benjamin, Robert C Griggs, Edward J wing. *Cecil Essentials of Medicine* (Persian), 8th. ed: Teimourzadeh; 2010:1,45. P.142.