Persian medicine's novel approach: Cholagogue laxatives in the treatment of cutaneous leishmaniasis

We have a strong understanding of the gut–skin axis and how the gastrointestinal microbiome influences skin health. Bile acids interact with gut microbes, and their antimicrobial properties can inhibit the growth of opportunistic and pathogenic microorganisms.[1] Imbalances in the intestinal microbiota (dysbiosis) have been associated with the onset of dermatological conditions, including cutaneous leishmaniasis, a neglected tropical disease caused by Leishmania parasites and transmitted by sandflies.[2]

In ancient Persian medical texts, terms like "Balkhi ulcer," "Baghdadi button," and "Domal-al-Nil" refer to the ulcerative nodules and wound lesions caused by mosquito bites, which are symptoms of cutaneous leishmaniasis.[3]

Persian medicine (PM) emphasizes the balance of four essential bodily fluids, called humors: blood, phlegm, yellow bile, and black bile. Maintaining harmony among these humors is crucial for overall health. Notably, excess yellow bile, referred to as "sue mizaj safra," is believed to play a role in the development of cutaneous leishmaniasis.[3]

Humoral theory (humoralism) categorizes substances based on their temperamental qualities, known as "Mizaj," which include cold, warm, dry, or wet. In PM, yellow bile (khilt-e-safra) is considered an irritant humor with a hot and dry temperament. Excess yellow bile (sue mizaj safra) can negatively impact health. To counteract this, remedies or foods with a cold temperament, called "safra bar," such as sumac, cherry, pomegranate, plum, barberry, and tamarind, are used to eliminate irritating bile from the digestive system. These substances can act as effective cholagogue laxatives.[3,4]

Recent research on mice suggests that medicinal plants with cold temperaments can influence the gut microbiome by reducing the abundance of Desulfobacterota while increasing the levels of Proteobacteria.[5] Conversely, bile acids can affect the microbial composition of the intestinal tract through their bacteriostatic and bactericidal effects. The intestinal microbiota plays a crucial role in regulating bile acid homeostasis by transforming primary bile acids into secondary bile acids and modifying their structural characteristics.[1]

These findings offer promising possibilities for using PM's treatments for ulcers and other ailments, as suggested by microbiome-related theories. Interventions that modulate bile may improve gastrointestinal health and provide a potential therapeutic approach for cutaneous leishmaniasis.

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Conflicts of interest

There are no conflicts of interest.

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REFERENCES

1. An C, Chon H, Ku W, Eom S, Seok M, Kim S, *et al.* Bile acids: Major regulator of the gut microbiome. Microorganisms 2022;10:1792.
2. Lopes ME, Dos Santos LM, Sacks D, Vieira LQ, Carneiro MB. Resistance against *Leishmania major* infection depends on microbiota-guided macrophage activation. Front Immunol 2021;12:730437.
3. Zakariya Razi M. Al-Mansouri fi al-Tibb. In: Sadighi H, editor. Iran, Tehran: Tehran University of Medical Sciences; 2008. p. 64.
4. Aghili Khorasani M. Makhzan Al-Advieh (The Storehouse of Medicaments). Tehran: Choogan; 2017.
5. Li B, Tao X, Sheng L, Li Y, Zheng N, Li H. Divergent impacts on the gut microbiome and host metabolism induced by traditional Chinese medicine with cold or hot properties in mice. Chin Med 2022;17:144.

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