Language is a major barrier between modern Western biomedicine and many traditional medical systems. Not only does this barrier complicate collaboration between health care practitioners in the field of integrative medicine, it also impedes the ability to research alternative medical systems. Chinese medicine is especially challenging to translate due to its unique diagnostic framework. The paper in this issue of *The Journal of Alternative and Complementary Medicine (JACM)* by Chen et al. (pp. 231–239) has started to bridge the language gap by providing a genetic correlate for several common Traditional Chinese Medicine (TCM) diagnoses.

Traditional medical systems differ from biomedicine not only in the healing modalities they use, but also in the process of diagnosing diseases. Biomedical physicians approach diagnosis by first taking a personal history, evaluating physical symptoms, and taking blood or urine for further lab tests. The biomedical physician uses the results of these tests to determine if a patient has a specific disease. In contrast, the TCM physician uses the power of observation, analyzing the patient’s symptoms combined with the qualities of tongue and pulse. The resultant diagnosis may have more to do with the constitution of the individual than with a specific disease they might have. To illustrate, the TCM diagnosis of “Liver qi stagnation” describes an individual who has a wiry pulse, a light purple tongue, and may be in pain. From a biomedical standpoint, “Liver qi stagnation” could describe a person with headaches, premenstrual syndrome, abdominal pain, constipation, and many other symptoms.

In the quest to understand causes of disease, biomedicine has begun to use genetic markers. For the first time, researchers are also using genetic markers to describe TCM constitutional types. In particular, Chen et al. (pp. 231–239) correlate human leukocyte antigens (HLA) to TCM diagnoses.

HLA genes encode proteins that play a critical role in the immune response. When a cell is infected by an intracellular pathogen such as a virus or bacteria, the cell needs a mechanism to alert the immune system. HLA molecules display peptides from the pathogen on the surface of the cell. In contrast to antigens sequestered in the cell, antigens presented by HLA molecules are visible to T cells. By surveying the contents of HLA molecules, T cells can identify and target infected cells. In the absence of an infection, HLA molecules present peptides derived from self proteins to T cells.

Humans have twelve different HLA proteins. Because HLA is highly polymorphic, each HLA molecule may differ slightly from another. Thus, one person might have 12 slightly different HLA molecules. Only identical twins will share identical HLAs. The structure of each individual HLA molecule determines which antigens it can present to T cells. Thus, some individuals may be more prone to certain infections or autoimmune diseases because one or more of their HLA molecules is better able to present an antigen. As a consequence, HLA is often the genetic component of diseases such as celiac disease, multiple sclerosis, type I diabetes, and others.

The study in this issue of *JACM* demonstrates that HLA is also related to TCM diagnoses. TCM physicians diagnosed 706 individuals with one of six common TCM constitutions. Each individual was also genetically tested to determine their HLA haplotype. Different patterns of HLA haplotype are associated for each TCM diagnosis demonstrating an objective scientific measure for an alternative medical system. While the association of HLA genes with TCM constitutions is notable, perhaps even more significant are new relationships to biomedicine that this data infers.

Interesting parallels start to appear when the common language of genetics is applied to both Chinese and biomedicine. For example, gene HLA DQB1*03032 is associated...
with rheumatoid arthritis (RA). RA is a chronic, inflammatory autoimmune disease in which the immune system attacks the joints. Patients experience a substantial loss of mobility resulting from pain and joint destruction. Chen et al. (pp. 231–239) associates gene HLA DQB1*03032 with yin deficiency, qi deficiency, Blood stasis, and Phlegm wetness (also referred to as damp Phlegm). Yin and qi deficiency are often associated with chronic conditions. Blood stasis is often associated with pain and poor mobility, Phlegm wetness with soreness, and swelling and deformity of the joints. These are common imbalances seen in patients with RA.

Chen et al. (pp. 231–239) have demonstrated that genes provide a tangible measure of what has long been immeasurable, the Chinese medical diagnosis. Many additional relationships between Chinese and biomedicine can be drawn from the data presented in Chen’s paper. As more genes are correlated to these and other TCM constitutions, a vast number of associations may be made. While TCM and biomedical approaches to healing vary dramatically, research into genetic markers may demonstrate that they have been speaking the same language all along.

**REFERENCE**


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