In medicine, the study of etiology refers to the study of the origins of disease. The study of pathogenesis is the study of the actual processes within the body whereby disease occurs, develops and changes. One of the most central concepts of TCM is that of the intimate connection between the body and the environment. The physiology of the cells, tissues, zang-fu organs and meridian system of the body is in dynamic internal equilibrium and constantly adjusts to the vagaries of the external environment. If the body is not able to cope with changes in the environment, internal equilibrium will be lost and disease will result. Thus, according to the constitution of any particular individual, the presence of disease is due to a lack of adaptability by the physiology of that individual to the conditions of the environment.\(^1\)

There is a saying in TCM: "The earth element creates damp and the metal element stores it." The organs associated with the earth element are the stomach and spleen. The organs associated with the metal element are the lungs and large intestine. When dampness is created by impaired digestion, it likes to end up in the lungs and large intestine. When dampness moves into the lungs, the usual symptom is phlegm coming up while coughing (especially after eating something that is inherently difficult to digest such as cold dairy products or greasy foods). When the dampness is stored in the large intestine, we find mucus-lined stools, loose stools, sticky stools that are difficult to clean up after or diarrhea with undigested bits of food. Even intestinal rumblings are due to dampness. Internal dampness is directly due to the impaired transformative and transportive function of the spleen system that then results in some form of pathogenesis within the body, zang-fu and meridians.

In Chinese medicine, dampness is considered to be the cause of many illnesses such as high cholesterol, cancer, metabolic disorders, chronic fatigue syndrome, fibromyalgia, allergies and environmental illness. For the sake of this discussion, only the symptoms of the aberrations of water metabolism will be considered. There are two general categories of dampness: external and internal. Internal dampness is the most common and easily will combine with heat or cold to cause damp-heat or damp-cold. Dampness can be thought of as the condition of "high humidity" inside the body. Symptoms can include a feeling of heaviness, swelling or water retention, distended abdomen, phlegm discharge, nodular masses, loose bowels and turbidity of fluids. Individuals with a dampness condition often have sluggish energy and easily gain
weight. The pulse commonly is slippery; the tongue often is puffy with teeth marks and a greasy coat.

External dampness is a condition of prolonged high humidity that usually occurs in late summer. When exterior dampness invades the body, it tends to do so from the lower extremities first. Dampness then works its way up the legs and settles into the lower jiao and spreads throughout the body. Patients often complain of dizziness, a heavy sensation in the head and body, and joint soreness and pain. In both external and internal dampness, there may be turbid discharges that form on the body (such as suppurating sores, weeping eczema, profuse purulent leukorrhea with a foul odor, turbid urine and stools containing mucus and even blood). Summer heat with dampness causes dizziness, heaviness in the head, a stifling sensation in the chest, nausea, poor appetite, loose stools, general lassitude, fever, restlessness and thirst.

A collection of dampness and heat may lead to such problems as inflammation, allergies (especially food allergies), high blood sugar, weight gain and urinary tract infections. Symptoms can include a smelly and sluggish bowel, abdominal pain, leukorrhea, eczema, and deep-yellow colored urine. The pulse often is slippery and fast; the tongue commonly is red with a yellow, greasy coating; the nails are often red; and the hands often are puffy and red, with a mottled appearance and swollen red cuticles.

Dampness describes a condition of viscosity and stagnation. Patients usually have a greasy-looking, sticky tongue coating and perhaps a viscous stool that is difficult to void, and/or obstructed urination. Diseases due to dampness tend to be prolonged and intractable. Damp is a yin pathogen that impairs yang and easily causes qi stagnation. Signs and symptoms include a sensation of fullness in the chest, epigastric distention, difficult and scanty urination, and hesitant and viscous stools. Pathogenic damp impairs spleen yang that leads to distention and fullness in the epigastrium and abdomen, poor appetite, loose stools and generalized edema.

What is the difference between damp, phlegm fluids and water? All three of these concepts refer to the products of the disturbance of water metabolism in the human body, which after being produced will cause further pathologic changes. They are often used interchangeably, but they really have some differences and should, therefore, be used differently. Dampness is both a physiological and a pathologic concept in TCM. As a TCM physiological concept, it refers to the water received by the stomach and digested and absorbed by the spleen, so it is also sometimes called water damp. The stomach likes dampness but the spleen abhors it. As a TCM pathologic concept, it refers to the retained water caused by disturbances of the spleen, so it mainly is used in the case of water retention due to diseases of the spleen system. Phlegm fluid retention is a
general term for all congealed water metabolism in the human body. This mainly is an indication of retained water that is not directly related to altered spleen function. For example, we may ascribe the cause of diarrhea to the downward flow of excess dampness from the stomach/spleen (middle jiao), or the cause of edema to the outward flow of dampness as a result of a disturbance in the spleen system. But we usually say the causative factor of scrofula (thickened, rubbery lymph nodes) is the accumulation of phlegm fluids. This disease is mainly secondary to liver qi stagnation (which further disturbs water metabolism), instead of being secondary to spleen disorders. As for water, it mainly is used to describe the fluid that accumulates in a cavity of the body, such as pleural effusion, ascites or edema that easily is rectified with the return of normal spleen function.

Worry, pensiveness and mental overwork often negatively affect the transporting and transforming function of the spleen and contribute to deranged water metabolism as internal dampness. Organs of the body other than the spleen also contribute to the action of water metabolism. The lungs (upper jiao) produce arginine-vasopressin, which acts on the kidney nephron to alter water balance in the body. Grief and melancholy stifle lung qi, which disrupts the production of arginine-vasopressin. The mineral corticoids of the adrenal glands (part of the kidneys) also regulate water balance in the body via the kidney nephron. The liver (lower jiao) produces angiotensinogen that assists in water balance via the angiotensin-renin-aldosterone system. The kidney produces rennin, which assists in the regulation of water balance in the above-mentioned system. Disharmonies between the organ systems of the lungs, kidneys and liver with the spleen system all cause some form of disrupted water metabolism. The degree of aberration, the length of time of disruption and the systems involved determine the symptoms and progression of pathogenesis within the body. According to TCM, the san jiao meridian is the pathway for the movement of all fluids within the body.3 Thus, any obstruction in the channels and meridians ultimately will affect water metabolism adversely in some manner.

**Food Therapy**

The role of poor diet in contracting internal dampness and food therapy in combating internal dampness is well-known. Foods that impair digestion yield food stagnation and interfere with the spleen contribute to the development of internal dampness due to the impairment of water metabolism within the body. When one overeats, food stagnation ensues. The digestive system will not function properly. This gives rise to such clinical manifestations as foul belching, sour regurgitation, distention, bloating, pain in the epigastrium and abdomen, loss of appetite, vomiting and diarrhea. Overindulgence in cold or raw foods easily can impair
spleen yang and leads to the development of interior damp-cold.\textsuperscript{4} The resulting symptoms are diarrhea and abdominal pain. Likewise, overindulgence in alcoholic beverages or greasy, sweet or spicy foods may lead to damp-heat, phlegm and stagnation of qi and blood. Resulting symptoms are the sensation of fullness in the chest with profuse sputum, dizziness and vertigo, bleeding hemorrhoids and yang-type sores. An excellent, clear and concise description of the diagnosis of damp conditions may be found in the text by Maciocia.\textsuperscript{9}

Foods known to cause dampness include: milk products (except yogurt), sugar and sweets, white-wheat flour, refined starch and highly processed starch products, excess raw fruits (sugar) and vegetables (mold from the soil), excess mushrooms and fungi, peppers, cold beverages (which immobilize immune cells on the walls of digestive track), an excess of fermented foods, foods containing yeast and an excess of vinegar. Foods known to cause damp-heat include: alcohol, fatty, greasy and deep-fried food. Foods with yeast/fungus-inhibiting properties known to relieve damp and damp-heat include: onion, cinnamon, ginger, scallion, basil, rosemary, dill, oregano, sage, parsley, cardamom, nutmeg, fennel, anise, clove, coriander, leek, chives, Job’s tears (yi yi ren)\textsuperscript{5}, euryale seed (qian shi)\textsuperscript{6}, aduki beans (chi xiao dou)\textsuperscript{7}, ginkgo nut (bai guo)\textsuperscript{8}, rye, celery, lettuce, alfalfa, turnips, raw honey and corn.

In dealing with the problems of dampness, the organs involved in the metabolism of water need particular attention. The lungs, spleen and kidneys are all intimately involved in various ways with water metabolism. Dampness and its combinations with wind, cold and heat cause obstruction of qi and blood or blockage of the channels in some manner, if not directly impairing the function of the lungs, spleen and kidneys. Treatment of damp and its combinations involves removing the obstructions and dissipating the pathological products as well as returning the normal functionality of the zang-fu organs.

References

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