

Interpreting illness conditions within the context of the Humoral Theory

One great challenge faced by Tibb practitioners is how to interpret illness conditions within Tibb philosophy and terminology. Tibb is a multidisciplinary healthcare system operating where the dominant healthcare system is conventional medicine. This ensures, not surprisingly, that clinical disorder terminology is largely based on conventional medicine.

Over the past few decades advances in technology when observing and identifying biochemical and structural changes linked to the different signs and symptoms has resulted in literally hundreds of 'labels' and 'syndromes', for identifying many illness conditions. This differs from the Tibb perspective, where most illness conditions are the result of an imbalance at the humoral, functional or structural level. This has resulted in two distinct diagnostic languages arising between Tibb and conventional medicine.

The attempt to bridge this gap is very often viewed as trying to fit a round peg into a square hole. However, recognising the common routes of both systems back to the founders of medicine, namely, Hippocrates, Galen and Ibn Sina, there has to be common ground, or a bridge, between the two systems. The information below is an attempt to bridge this gap. Whilst much of this information does make sense, validation of this interpretation needs to be further researched.

1. Cardiovascular system

In Tibb, the heart is the most important organ in the body. Ibn Sina shared the sentiments of the Prophet Muhammad (PBUH) who considered the heart to be supreme, and stated:

"There is one organ in the body which, if it is well, the whole body is well; and if it is ill, the whole body is ill. And that organ is the heart."

Being essentially a muscular organ and very active and dynamic, the heart is the hottest organ in the body. This intense heat results in dryness, giving the heart a dry and hot temperament. The pericardium protects and insulates the heart which is constantly heaving and pulsating. The pericardial fluid also somewhat helps prevent the heart from overheating. The hot and moist blood which circulates through the heart prevents the heart from becoming excessively dry. Being innately hot, the heart is very susceptible to injuries/disease caused by an excess of cold qualities.

1.1. Heart Failure – excess/abnormal phlegmatic humour – Moist and Cold

Heart failure is a term used to describe the state that develops when the heart cannot maintain an adequate cardiac output (*the amount of blood the heart pumps in one minute*) or can do so only at the expense of an elevated filling pressure. In the mildest forms of heart failure, cardiac output is adequate at rest and becomes inadequate only when the metabolic demand increases during exercise or some other form of stress. Heart failure may only be diagnosed whenever a patient with significant heart disease develops the signs and symptoms of low cardiac output, pulmonary congestion and systemic venous congestion.

Clinical features

Left heart failure – raised jugular venous pressure (JVP), pulmonary oedema, cardiomegaly, pleural effusions, pitting oedema.

Right heart failure – Raised JVP, hepatomegaly, ascites, peripheral pitting oedema.

Aetiology and Pathology

Heart failure is linked with excessive qualities of moistness and an imbalance in the phlegmatic humour. When blood output from the heart is inadequate to perfuse the body effectively, higher filling pressure of the heart and restored perfusion to the body results due to the weakening of Physis. However, this increase in moistness, dampens the heat required by the heart to perform its functions efficiently. Blood fails to circulate effectively, resulting in fluids accumulating in different parts of the body, especially the lower extremities, lungs and liver. The clinical features are suggestive that there is an accumulation of moistness with cold in the system. Peripheral and pulmonary oedema, pleural effusions and ascites, raised JVP etc. indicate an excess of moistness. Whereas central and peripheral cyanosis and low energy are linked with qualities of coldness.

1.2. Coronary Heart Disease –excess/abnormal phlegmatic or melancholic humour – Cold and Dry

Coronary heart disease (CHD), also termed coronary artery disease or ischaemic heart disease, is a serious, life-threatening disorder in which the blood supply to the heart muscle (myocardium) is markedly reduced usually due to atheroma (*degeneration of the walls of the arteries due to the formation in them of fatty plaques and scar tissue*), and its complications particularly thrombosis (*a condition in which the blood changes from a liquid to solid state and produced a blood clot*). It affects adults of both sexes, but is less common in pre-menopausal women.

Aetiology and Pathology in Tibb

CHD is caused from a Cold and Dry imbalance at the vascular level. Vascular lesions causing ischaemia (*inadequate flow of blood to a part of the body*) may either arise from an excess or abnormal melancholic humour or the abnormal phlegmatic humour.

The melancholic humour which is linked to the earth element, by nature is heavier and denser than the other humours and is known as the “residue” in blood. It coagulates and condenses. When in excess or in abnormal form, vascular lesions develop e.g. solidification of fat causing plaque aggregation, or clot formation. The phlegmatic humour is linked to the water element which absorbs energy. An excess thereof in the circulatory system impairs blood circulation which may result in hyperviscosity, atheroma and thrombus development. When coldness dominates at a vascular level, dryness ensues and vascular lesions develop. An excess of coldness also causes vasoconstriction which may result in arterial spasm due to contraction of the smooth muscle in the media of the vessel.

Abnormal forms of the melancholic humour, either arising from the melancholic humour itself or from a hardened form of the phlegmatic humour are usually more corrosive and damaging than their normal states respectively.

Clinical Features

Stable angina is characterised by central chest pain, discomfort or breathlessness that is precipitated by exertion or other forms of stress and it promptly relieved by rest.

Unstable angina is characterised by new-onset or rapidly worsening angina on minimal exertion or angina at rest.

The symptom of chest pain is a result of an imbalance in the melancholic humour in the blood resulting in a lack of oxygen to heart.

1.3. Varicose Veins - excess phlegmatic humour – Cold and Moist

Tortuous and distended (‘varicose’) veins or varices are a common clinical problem. The return of blood from the deep veins is aided by the normal contraction of the calf and thigh muscles (*increases heat and dryness*). The accumulation of blood in the veins of the legs over a long period of time, may occur in people with occupations that require standing still all day (*increase coldness and moistness*), can cause the veins to stretch to the point where the venous valves are no longer efficient (*cold and moist*).

Inactivity also affects the cardiac force with which blood is ejected from the heart. This in turn reduces the arterial circulation which directly affects venous circulation causing blood to pool in the veins. If the valves in the perforating veins become incompetent, blood can be forced from the deep to the superficial venous plexuses; this is a major factor in the development of varicosities.

Exercise/movement increases heat and dryness; inactivity increase coldness and moistness. Heat increases circulation, coldness decreases circulation. Therefore the impaired circulation results from excess qualities of coldness and moistness due to physical inactivity. The risk factors for the

development of varicose veins confirm the above stated qualities and include an increase in age (coldness), overweight or obese (cold and moist), women (women have more adipose tissue and less muscle mass than men – cold and moist), and pregnancy (increase moistness).

Clinical Features

Initially superficial veins are tense and may be palpable but are not visible. Subsequently they become visibly dilated and tortuous (*full of twist and turns*). Varicose veins may be associated with aching, fatigue or heat that is relieved by elevation or by compression hosiery.

2. The Lungs

The lungs spongy appearances are due to the presence of millions of alveoli which are tiny thin walled, hollow sacs. The light and delicate nature of the lung tissue gives it its hot and dry temperament (fire element) and depends on the bilious humour for its nourishment. The lungs are in a constant state of movement (heat) with short rests in between, rising and falling with inspiration and expiration respectively. The surfactant found in each alveoli provides moistness which balances the heat and dryness of the lungs. The lungs and heart work closely together, with the lungs as the bellows that fans and stokes the heart - furnace. In addition to feeding and replenishing the vital principles generated in the heart, the lungs also serve to fan the heart to cool it down somewhat, with the cool and moist air breathed in acting as a cool breeze around the heart which prevents it from overheating. In exhalation, the lungs also act as the exhaust valve that sucks impure, sooty vapours and stale air out from the heart, which is like the engine of a car. Because the lungs and heart work so closely together, their vital functions are intimately connected.

2.1. Asthma

Asthma is characterised by chronic airway inflammation and increased airway hyper-responsiveness leading to symptoms of wheezing, cough, chest tightness and dyspnoea (*laboured or difficult breathing*). It is characterized functionally by the presence of airflow obstruction which is variable over short periods of time, or is reversible with treatment. Asthmatic attacks are characterized by narrowing of the large and small airways due to spasm of bronchial smooth muscle, oedema (*excessive accumulation of fluid in the body tissues*) and inflammation in the bronchial mucosal wall, and the production of tenacious mucous.

Tibb has identified 3 main types of asthma:

- **Allergic asthma:** due to excess of **heat and dryness**.
- **Phlegmatic asthma:** due to an excess of **coldness with moistness** causing an increased phlegm production.

- **Melancholic asthma:** due to an excess of **coldness with dryness** causing hardened, fibrosed airways.

Atopic/Allergic Asthma

Atopic asthma is triggered by a variety of environmental agents, including dust, pollens, food, and animal danders e.g. faecal pellets from house dust mites. Patients with atopic asthma may also suffer from atopic disorders such as hay fever and eczema. Inhalation of an allergen (antigen) causes degranulation (*releases antimicrobial cytotoxic molecules from secretory vesicles*) of mast cells bearing specific IgE molecules. Release of vasoactive substances from the mast cells causes bronchial constriction, oedema and mucus hypersecretion.

Clinical Features

Wheezing, tachypnoea (*rapid breathing*) and dyspnoea

Aetiology and Pathology according to Tibb

Atopic/allergic asthma is linked to qualities of heat and dryness associated abnormal phlegmatic humour. Allergic asthma is triggered when there is a change in climate or season resulting in an increase of heat e.g. moving from winter to spring. Symptoms linked to allergies like rhinitis and post-nasal drip may precede the onset of attacks. This phlegmatic humour which has lost its normal soothing and protective functions irritates the mucous membrane resulting in local irritation and excess mucous production. The phlegmatic humour is generally corrupted by the bilious humour and results in the hyper-sensitization of the immune system. Recent studies suggest that the use of antibiotics in early childhood lead to an increased risk of asthma and allergy development [<http://onlinelibrary.wiley.com/doi/10.1046/j.1365-2222.2000.00939.x/full>]. When the elimination of excess phlegmatic humour is suppressed by the overuse of conventional medication it allows for abnormal and corrupted states to develop, resulting in the manifestation of more serious illness condition.

Phlegmatic Asthma

Causes and risk factors for the development of phlegmatic asthma include genetic factors or a phlegmatic dominant or sub-dominant temperament, having a low birth weight, respiratory infections, excessive intake of cold and moist foods and exposure to cold air. According to Tibb, phlegmatic asthma is associated with qualities of coldness with moistness and an excess or abnormal phlegmatic humour resulting from an accumulation of phlegm that may be insipid, or thick and/or sweet. Symptoms often worsen in cold conditions.

Clinical Features

Wheezing; dyspnoea; tachypnoea; productive cough

Melancholic Asthma

Aetiology and Pathology according to Tibb

Melancholic asthma occurs from excessive coldness with dryness. It can either have a sudden onset due to the exposure of excessive cold qualities e.g. cold weather, colder times of the day, cold foods etc. or it can result as a complication of atopic or phlegmatic asthma. It is linked to excess or abnormal melancholic or phlegmatic humour. In chronic cases the bronchi becomes thick and hard (thickening of the bronchial basement membrane due to subepithelial fibrosis). It may also result from the use of certain medications and smoking, which contributes towards the cold and dry excess. This form of asthma may be linked to intrinsic asthma, which develops later in life and is associated with recurrent respiratory infections, especially chronic bronchitis.

Clinical Features

Marked breathing difficulty; absent or small amount of mucoid sputum.

2.2. Chronic Obstructive Pulmonary Disease (COPD) – excess/abnormal phlegmatic or melancholic humour – Cold and Dry

COPD is defined by the presence of airways obstruction, which does not change markedly over several months and, unlike asthma, is not fully reversible. Chronic bronchitis and emphysema are forms of COPD.

Aetiology and Pathology according to Tibb

A variety of risk factors appear to increase the risk of developing COPD, but cigarette smoking (*increases dryness*) remains to be the most important. COPD has both a pulmonary and systemic components. An enlargement of mucus-secreting glands and an increased number of goblet cells in the larger airways (*irritation of the mucous membrane due to cigarette smoke inhalation results in inflammation and subsequent mucous production*) contribute to enhanced secretions of airway mucus that manifests as chronic bronchitis. This causes airflow obstruction limiting the movement of the lungs. In turn there is a loss of elastic tissue surrounding the smaller airways, accompanied by inflammation within the airway lumen, further restricting airflow. Premature airway closure leads to gas trapping and hyperinflation, which in turn decrease pulmonary and chest wall compliance. During exercise the time available for expiration shortens, resulting in progressive hyperinflation. Flattening of the diaphragmatic muscles and an increasingly horizontal alignment of the intercostals muscles place the respiratory muscles at a mechanical disadvantage. The work of breathing is therefore markedly increased, first on exercise but then, as the disease advances, at rest.

COPD is caused by abnormal phlegmatic or melancholic humour and is linked to an excess of cold and dry qualities.

Clinical Features

Patients over the age of 40 presenting with symptoms of persistent cough and small amounts of mucoid sputum and/or breathlessness which occurs for most days for at least 3 consecutive months for at least 2 successive years.

2.3. Tuberculosis (TB) – abnormal bilious or melancholic humour – Dry and Hot

TB is an infectious disease caused by a bacteria, *Mycobacterium tuberculosis*. It affects many areas of the body, especially the lungs, but also the lymphatic glands, bones, bladder, and spine.

Aetiology and Pathology according to Tibb

Bacteria in droplets that bypass the mucociliary system and reach the alveoli are quickly surrounded and engulfed by alveolar macrophages the most abundant immune effector cells present in alveolar spaces. The subsequent phagocytosis (*the engulfment and digestion of bacteria and other foreign particles by a cell*) by macrophages (*a large scavenger cell*) a cascade of events that results in either successful control of the infection, followed by latent tuberculosis, or progression to active disease, called primary progressive tuberculosis. The outcome is essentially determined by the quality of the host defenses and the balance that occurs between host defenses and the invading mycobacteria. Regardless of whether the infection becomes controlled or progresses, initial development involves production of proteolytic enzymes (*a digestive enzyme that causes the breakdown of protein*) and cytokines by macrophages in an attempt to degrade the bacteria. Released cytokines attract T lymphocytes to the site, the cells that constitute cell-mediated immunity. For persons with intact cell-mediated immunity, the next defensive step is formation of granulomas around the *M tuberculosis* organisms. These nodular-type lesions form from an accumulation of activated T lymphocytes and macrophages, which creates a micro-environment that limits replication and the spread of the mycobacteria. This environment destroys macrophages and produces early solid necrosis (*cold and dry*) at the center of the lesion; however, the bacilli are able to adapt to survive. By 2 or 3 weeks, the necrotic environment resembles soft cheese, often referred to caseous necrosis, and is characterized by low oxygen levels, low pH, and limited nutrients (*cold and dry*). This condition restricts further growth and establishes latency. Lesions in persons with an adequate immune system generally undergo fibrosis and calcification (*dryness*), successfully controlling the infection so that the bacilli are contained in the dormant, healed lesions. Lesions in persons with less effective immune systems progress to primary progressive tuberculosis. For less immunocompetent persons, granuloma formation is initiated yet ultimately is unsuccessful in containing the bacilli. The necrotic tissue undergoes liquefaction, and the fibrous wall loses structural integrity. The semiliquid necrotic material can then drain into a bronchus or nearby blood vessel, leaving an air-filled cavity (*cold and dry*) at the original site.

In patients infected with *M tuberculosis*, droplets can be coughed up from the bronchus and infect other persons. If discharge into a vessel occurs, occurrence of extrapulmonary tuberculosis is likely. Bacilli can also drain into the lymphatic system and collect in the tracheobronchial lymph nodes of the affected lung, where the organisms can form new caseous granulomas.

TB is associated with qualities of dryness with heat. Biliary/Melancholic temperamental combinations are more susceptible to developing TB. TB is an inflammatory condition which presents with signs and symptoms of TB, such as night sweats, high fever and loss of weight are linked to heat. The formation of fibrosis and calcification of lung tissue are linked to dryness. The alveoli are bathed in a type of phlegmatic humour i.e. surfactant, which due to an excess of dryness becomes sticky and hard. This affects the elasticity of the alveoli. During the inflammatory process of this condition, the phlegm is eliminated from the lungs which results in coughing with sputum. The presence of blood streaked sputum results during this process of elimination as the hardened phlegm removes tissue cells as well. Much like taking a piece of sticky tape off paper where some of the paper fragments remain on the tape.

Clinical Features

Fever; malaise (*a general feeling of being unwell*), weight loss; cough with sputum (scanty at first, increases with progressive pulmonary excavation); haemoptysis (*the coughing up of blood*); dyspnoea; night sweats.

3. The Digestive System

“The stomach is the home of all disease.” Prophet Muhammed (SAW)

The main function of the digestive system is to digest food and drink into **chyle**, whose nutrients are then absorbed from the intestines via the veins of the hepatic portal system and sent to the **liver**, for processing into the four humours. The entire digestive tract is one seamless, interconnected whole, many close reflex relationships exist between its various organs. Problems or dysfunction arising in one part of the alimentary canal will affect or have repercussions on all the others. The alimentary canal is amazingly versatile in that it can both assimilate and eliminate from both its top and bottom ends. Elimination from its top end occurs through vomiting, or emesis. Assimilation from its bottom end can occur through enemas and rectal administration. This makes it very useful and versatile therapeutically. The alimentary canal is also the main route of detoxification for the organism.

Stomach

The stomach lies at the center of the digestive tract, and is the first organ to initiate digestion in a major way. The main temperament of the stomach is hot and dry as its digestive function is due to hot, caustic stomach acids, and it is nourished by the bilious humour. These gastric juices would digest the very stomach itself if it weren't for its protective mucous coating of the opposite yet complementary phlegmatic humour. The kinetic aspect of digestion in the stomach is its motility and churning of the

food juices in digestion. For proper kinetic stomach function, there must be balance and harmony between the stomach and the liver. If the liver is stagnant and congested, the kinetic functioning of the stomach will often be as well. Residues of **the melancholic humour** from the neighbouring **spleen** enter the stomach to stimulate and awaken the gastric secretions, and one feels hungry. When the stomach has thoroughly processed the food, the **pyloric valve** lets it out in a controlled, regulated fashion. The melancholic humour in the stomach, with its retentive virtue, constricts the pyloric valve and favours retention of the gastric contents, whereas the phlegmatic humour in the stomach, with its expulsive virtue relaxes or dilates the pyloric valve, favoring their expulsion or release. Proper stomach function and the right balance between retention and expulsion depend on the right balance of the melancholic and phlegmatic humour.

Since the stomach is the central organ of the digestive tract and the first digestion, which happens within the alimentary canal, proper digestion depends on proper stomach function. If the stomach doesn't function efficiently, then the rest of the digestive stages will be affected. To strengthen digestion, we must strengthen the stomach.

Duodenum

The duodenum is only approximately 25cm long, but its functions are crucial in the digestive process. The liver and gall bladder secrete bile, which is the vehicle for both absorbing and eliminating fats, into the duodenum. The pancreas must secrete its digestive enzymes and alkaline bicarbonates into the duodenum soon after the stomach's contents exit the pyloric valve; the stomach acids must be buffered and neutralized by the pancreatic juices. The duodenum is vulnerable to pathologies of the bilious humour, since it receives both stomach acids as well as bile. Most typically, these are duodenal ulcers. If the melancholic humour is involved, these ulcers tend to be chronic and indolent.

The Colon, or Large Intestine

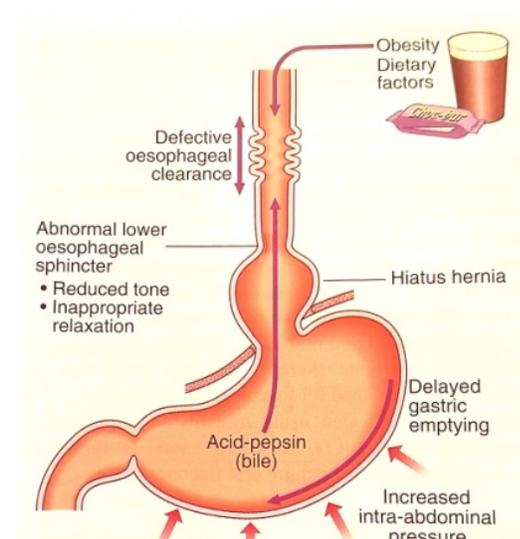
In the colon, the remaining fluids and electrolytes are reabsorbed by the retentive virtue of the melancholic humour. The melancholic humours drying action also thickens and solidifies the stool, which enables the colon to hold onto it until the time is right for excretion or defecation. Actually, three different humours, working together in the right harmony and balance, are all essential for normal, healthy defecation and colon function. If any of them is deficient, excessive or otherwise aggravated, the colon function will suffer. The melancholic humour thickens and solidifies the stool, reabsorbs fluids, moisture and electrolytes, and maintains adequate intestinal constriction or tone. If the melancholic humour is excessive or aggravated, the stools will be too hard and dry, and difficult to eliminate. Aggravations of the melancholic humour can also cause gas, bloating, colic and flatulence. The phlegmatic humour and its moisture keep the stools soft enough to enable them to be expelled through defecation. The colon also has a mucous coat that protects and lubricates it, and facilitates the passage and excretion of the stool. Healthy colon function depends on a proper balance between the

melancholic humours dryness and the phlegmatic humours moistness. If the phlegmatic humour is excessive or aggravated, the stools can be excessively soft, loose or watery; copious phlegm may also be present in the stools, or they will be soft, mucilaginous and mucoid. Bowel tone can also be excessively bloated, loose or lax. The phlegmatic humour may also cause sluggishness of the colonic peristalsis and cause infrequent bowel movements and constipation. The bilious humour colors the stools brown and acts as a natural laxative, stimulating peristalsis and the defaecation reflex. If the bilious humour is excessive or aggravated in the colon, the stools will tend to be soft and loose; they will also tend to be smelly, and may be hot or burning upon defecation. Intestinal transit time tends to be short, as peristalsis is hyperstimulated by the excessive bilious humour. In the body, the colon functions somewhat like the roots of a tree and the ground it is planted in. If this terrain is morbid or toxic, toxins will be absorbed through these roots to poison the whole organism. Tibb emphasizes the importance of colon health and recommends periodic cleansing of the colon with laxatives or enemas. If the colon's normal downward flow of peristalsis and defecation isn't functioning properly, and it is congested or constipated, there will be backup, stagnation, or reflux signs and symptoms throughout the digestive tract. These can include oesophagitis, acid reflux, abdominal distension and bloating, and much more. If the colon is morbid and toxic, there can also be toxicity and congestion in the throat, and frequent or recurring sore throats. If the colon is stagnant or constipated, the lung and respiratory function is also often weak, and full inhalation compromised or inhibited.

Pancreas

The pancreas is important in balancing and regulating many aspects of digestion and metabolism. The pancreas has both exocrine secretions that balance and regulate digestion, as well as endocrine secretions that balance and regulate metabolism. Besides containing several important digestive enzymes, the exocrine digestive secretions of the pancreas balance the pH of the lower digestive tract, buffering the stomach acids to create a mild environment that makes nutrient assimilation possible.

3.1. Gastroesophageal Reflux Disease (GORD) or Reflux



GORD develops when the oesophageal mucosa is exposed to gastric contents for a prolonged period of time, resulting in symptoms and in a proportion of cases, oesophagitis.

Aetiology and Pathology according to Tibb

GORD can either result from an excess of the bilious humour with hot and dry qualities, which causes an

increased production of stomach acid, or from an excess of the phlegmatic humour with cold and moist qualities, which causes reduced tone and inappropriate relaxation of the oesophageal sphincter.

Clinical Features

Heart burn with or without regurgitation of gastric contents into the mouth is the most prominent symptom.

3.2. Peptic Ulcer Disease (PUD)

Ulcers in the stomach or duodenum may be acute or chronic; both penetrate the muscularis mucosae but acute ulcers shows no evidence of fibrosis.

Gastric Ulcers – deficient phlegmatic humour – Hot and Dry

Historically it has been hypothesized that excessive acid production is the cause of gastric ulcers. Recently it has been discovered that people with gastric ulcers frequently have normal or subnormal acid production. Conversely, those who are hypersecretors of acid do not get ulcers. It has therefore become apparent that mucosal defense against acid attack is of prime importance. The pH of the gastric juice under fasting conditions is extremely acidic so that any unprotected gastric mucosa would rapidly undergo auto digestion.

Clinical Features

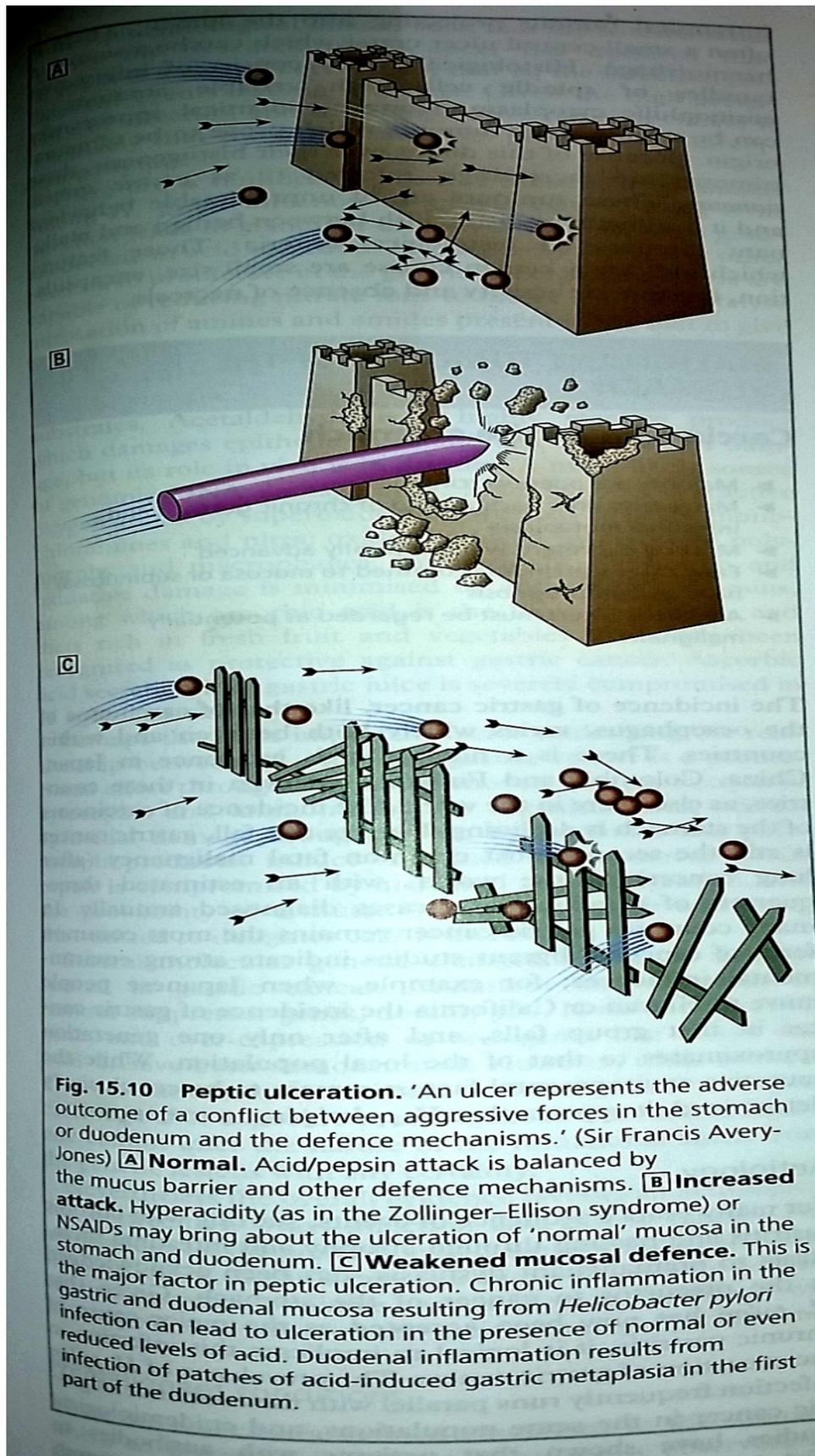
Eating usually cause rather than relieve pain.

Duodenal Ulcers – Excess bilious humour and/or deficient phlegmatic humour – Hot and Dry

Increased production of acid assumes more importance in the pathogenesis of duodenal ulceration. However, mucosal defense is also an important factor.

Clinical Features

In patients with duodenal ulcers the pain seems to follow a consistent pattern. It is absent when the patient awakens, but appears mid-morning. It is relieved by food, but recurs 2-3 hours after a meal. Pain that awakens the patient around 1-2am is common and highly suggestive of ulcer.



3.3. Inflammatory Bowel Disease

Ulcerative colitis and Crohn's disease are chronic inflammatory bowel diseases which pursue a protracted relapsing and remitting course, usually extending over years. The diseases have many

similarities and it is sometimes impossible to differentiate between them. A crucial distinction is that ulcerative colitis only involves the colon, while Crohn's disease can involve any part of the gastrointestinal tract from the mouth to the anus.

Ulcerative Colitis – Abnormal phlegmatic humour (salty phlegm) – Hot and Dry

Inflammation invariably involves the rectum (proctitis). It may spread proximally to involve the sigmoid colon (proctosigmoiditis) and in a minority the whole colon (pancolitis) is involved. Inflammation is confluent and is more severe distally. In long standing pancolitis the bowel becomes shortened and 'pseudopolyps' develop, these represent normal or hypertrophied (*an increase in the size of tissue or organ brought about by the enlargement of its cells rather than by cell multiplication*) residual mucosa within areas of atrophy (*wasting away of normally developed organ or tissue due to degeneration of cells*). Histologically, the inflammatory process is limited to the mucosa and spares the deeper layers of the bowel wall. Goblet cells lose their mucus and in long-standing cases glands become distorted. Sigmoidoscopy (examination of the rectum and sigmoid colon with a sigmoidoscope) provides a direct and immediate indication of the disease process. The mucous membrane is first seen as finely granular and friable (*hot*), with loss of normal vascular pattern, and often with scattered haemorrhagic areas (*hot*); minimal trauma causes bleeding (*protective function of the phlegmatic humour has been lost*) in multiple pinpoint spots. The mucosa soon breaks down into red, spongy surface dotted with a myriad of tiny blood and pus-oozing ulcerations (*hot*). As the mucosa becomes progressively involved, the inflammatory and haemorrhagic process extends into the muscular coats of the bowel. Large mucosal ulcerations with copious purulent exudates (hot and moist) characterize severe disease. Islands of relatively normal or hyperplastic inflammatory mucosa (pseudopolyps) project above areas of ulcerated mucosa.

Clinical Features

The major symptom is bloody diarrhoea (hot and moist).

Proctitis causes rectal bleeding and mucus discharge sometimes accompanied by tenesmus (*the sensation of the desire to defaecate, which is continuous or recurs frequently, without the production of significant amounts of faeces*). Some patients pass frequent, small-volume fluid stools, while others are constipated and pass pellet stools.

Proctosigmoiditis causes bloody diarrhoea with mucus.

Extensive colitis causes bloody diarrhoea with passage of mucus. In severe cases anorexia (*loss of appetite*), malaise, weight loss and abdominal pain occur, and the patient is toxic with fever, tachycardia (*an increase in heart rate above normal*) and signs of peritoneal inflammation.

The above listed symptoms indicated an abnormal phlegmatic humour associated with qualities of heat and moistness. As Ulcerative Colitis is an inflammatory condition it is linked to heat. The inflammation affects the mucous membrane which results in excessive mucous production – moistness. The normal

phlegmatic humour pacifies the mucous membrane with its cold and moist qualities whereas the abnormal phlegmatic humour irritates the mucous membrane due to the heat present within.

Crohn's Disease – excess or abnormal phlegmatic humour (qualities should be evaluated on a case to case basis)

The sites most commonly involved, in order of frequency, are terminal ileum and right side of colon, colon alone, terminal ileum alone, ileum and jejunum. The earliest macroscopic lesions of Crohn's disease appear to be tiny focal "aphthoid" ulcerations of the mucosa, usually with underlying nodules of lymphoid tissue. Sometimes these aphthoid lesions regress, but in other cases, the inflammatory process progresses to involve all layers of the intestinal wall, which becomes greatly thickened. Changes are most marked in the submucosa, with lymphedema and lymphocytic infiltration occurring first, and extensive fibrosis (*cold and dry*) later. Patchy ulcerations develop on the mucosa, and a combination of longitudinal and transverse ulcers with intervening mucosal oedema (cold and moist) frequently creates a characteristic "cobblestone" appearance. The transmural inflammation, deep ulceration, oedema and fibrosis are responsible for obstruction, deep sinus tract and fistula formation and mesenteric abscesses, which are the major local complications.

Crohn's is a condition which affects the lymphatic system. When there is an obstruction in the lymphatic system, its ability to drain toxins is compromised which results in lymphoedema and oedema. The accumulation of toxins leads to ulceration in various parts of the intestines. The presence of oedema with subsequent fibrosis of the mucosa and the surrounding tissue is indicative of an excess or abnormal phlegmatic humour.

Clinical features

The major symptoms are abdominal pain, diarrhoea and weight loss. Pain is often associated with diarrhoea which is watery and does not contain blood or mucus. Almost all patients lose weight. This is usually because they avoid food since eating provokes pain. Weight loss may also be due to malabsorption, and some patients presents with features of fat, protein or vitamin deficiencies. Crohn's colitis presents in an identical manner to ulcerative colitis, with bloody diarrhoea, passage of mucus and constitutional symptoms including lethargy, malaise, anorexia and weight loss.

4. Hepato-biliary System

Liver

The liver generates the four humours, which are the main agents of nutrition and metabolism in the body. The **veins** of the **hepatic portal system** carry these nutrients to the liver for humour generation. The venous blood of the **inferior vena cava** picks up the humour-enriched blood and sends

it to the **heart**, where all the humours are activated, vitalized and made more bioavailable to the organs and tissues. Since the liver's generation of the four humours in the second digestion is so important and central, all other organs of the GIT ultimately exist to support and serve the liver. Since the most important and bounteous humour that the liver produces is the sanguinous humour, it is predominantly hot and moist in temperament. The liver is a hot organ, second only to the heart in heat. Therefore, the liver is prone to excesses of heat, which can vary in acuteness and severity according to the constitution of the individual and the nature of the disorder. The liver's bile flow is also one of the main vehicles for the general detoxification of the body. Bile eliminates heavier, or fat soluble wastes from the body. Unfortunately, modern dietary abuses, like excessive meat consumption and oily, greasy, fried foods, aggravate, obstruct or congest the bile, causing jaundice, biliousness, and fatty degenerative changes in the liver.

Gall Bladder

The gall bladder is the liver's attendant vessel, in that it is the storage receptacle for the bilious humour and bile, which is produced by the liver. The gall bladder stores the bile to be used as needed. If an apple is eaten, not much bile is needed, but if some greasy fried food is eaten, a lot of bile will be needed all at once; and so, the gall bladder dumps it into the digestive tract.

Surgeons make the case that the gall bladder is a vestigial organ, and not very necessary or important. Without a gall bladder, one cannot have normal, optimal digestion and metabolism of fats. Also, as the storage reservoir of the bilious humour has been misplaced, major harm can come to other organs of the body as a result of the bilious humours digestive and refining properties.

4.1. Jaundice

Jaundice is a sign of several different diseases.

The skin and eyes acquire a distinct yellow colour, due to the presence of abnormally high levels of the bile pigment, bilirubin. This pigment is the major breakdown product of haemin, the non-protein, iron-containing part of haemoglobin found in red blood cells.

The old, non-medical, term for jaundice is *icterus*.

Jaundice arises from three distinct causes:

- Increased destruction (*haemolysis*) of red blood cells, resulting in a rapid release of bilirubin into the blood. This circulates around the body, reaching the eyes and skin in particular. This is termed *haemolytic jaundice*.
- Obstruction of the excretion of water-soluble bilirubin into the bowel. The result is a progressive build-up of bilirubin in the bloodstream, leading to the symptoms which are typical of jaundice.

This is termed *obstructive jaundice*.

- Damage to the liver cells, so that less bilirubin is processed by the liver. This leads to a build-up of bilirubin, with the clinical consequences outlined above.

Some degree of jaundice is common in newborn babies, especially premature babies, and is usually not serious. It occurs because the new baby's liver is limited in its ability to process bilirubin. The dysfunction in the liver directs the bilirubin into the blood stream instead of the colon. In most cases, the problem soon resolves itself. This form of jaundice is linked to qualities of heat and dryness which is why blue light phototherapy (cold and moist) is used.

Clinical features

It is important to diagnosis jaundice accurately, as treatment varies according to type and severity.

- ◆ Obstructive jaundice (*Cold & Dry*) - It includes hepatocellular (parenchymal) liver disease and large duct obstruction. Predominant symptoms are: yellow eyes, dark yellow urine and pale stools. People with cirrhosis of the liver, and those responding badly to certain drugs or anaesthetic gases will develop this type of jaundice, which is also termed *cholestatic* jaundice.
- ◆ Haemolytic jaundice (*Hot & Dry*) – this is associated with an excess of bilious humour. An increased bilirubin load for the liver cells (which are Hot & Dry qualitatively), leads to the symptoms of yellow eyes, dark yellow urine and stool. People most affected are those infected by malaria, and those suffering from sickle cell disease.

4.2. Cholelithiasis (Gallstones) – Cold and Dry – excess or abnormal melancholic humour

Gallstones are conveniently classified into cholesterol or pigment stones, although the majority are of mixed composition. Cholesterol stones are most common in developed countries, whereas pigment stones are more frequent in developing countries. Gallstones contain varying quantities of calcium salts, including calcium bilirubinate, carbonate, phosphate and palmitate.

In conventional medicine there is much debate over the role of diet in cholesterol gallstone disease; an increase in dietary cholesterol, fat, total calories and refined carbohydrate or lack of dietary fibre have all been implicated. At present, there is much data to support an association between simple refined sugar in the diet and gallstones.

Gallstones are linked to qualities of coldness and dryness. It has features linked to the earth element which results in solidification of matter. Gallstones are linked to an excess or abnormal melancholic humour. The abnormal melancholic humour may arise from an imbalance in any of the humours.

Clinical Features

Patients with uncomplicated gallstones usually are asymptomatic but may complain of upper abdominal discomfort, bloating, belching, and food intolerances. Pain often radiates to the tip of the right shoulder. Symptoms and signs depend upon the size, number and location of gallstones. Multiple small stones often cause intermittent episodes of abrupt, severe pain when a small stone passes into the common bile duct. Large stones may cause pain by intermittent obstruction of the outlet of the gallbladder.

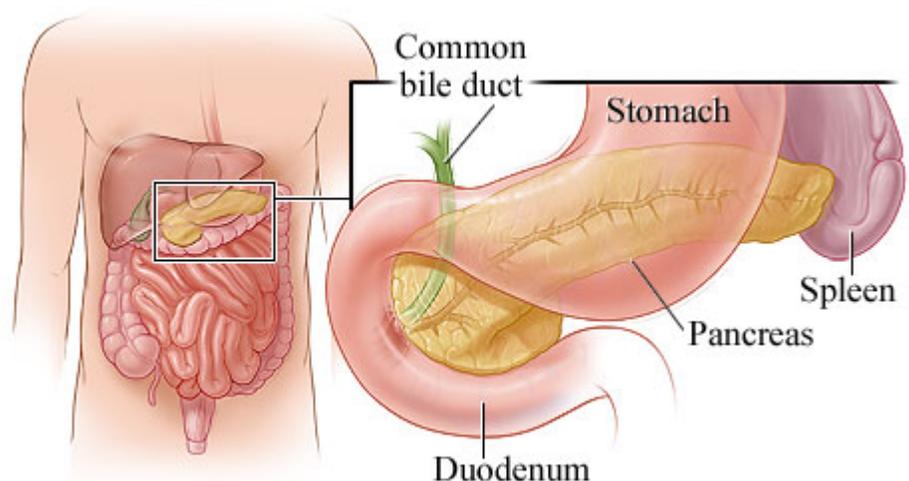
5. Metabolic Disorder

Diabetes Mellitus II – Excessive moistness – Excess or abnormal phlegmatic humour

Diabetes mellitus is a clinical syndrome characterized by hyperglycaemia due to absolute or relative deficiency of insulin. Hyperglycaemia represents an independent risk factor for the development of disease of both small and large blood vessels. The global pandemic principally involving type 2 diabetes is contributed to by several factors including obesity, unsatisfactory diet and sedentary lifestyle.

Diabetes Mellitus II is due to inefficient heat needed by the digestive system for the effective metabolism of carbohydrates, fats and proteins. There are various mechanisms which results in a deficiency of metabolic heat. The excessive intake of carbohydrate rich foods, with a dominant quality of moistness by far predominates. Excess moistness dampens metabolic heat needed for effective digestion. Eating overly large meals, and frequent eating is another mechanism. The stomach is often compared to a fireplace, with food being the wood that fuels the fire which in turn provides heat to the body as well as the accessory digestive organs like the pancreas (note the anatomical position of the stomach in relation to the pancreas).

The greater the quality of wood consumed, the greater the heat provided. “Damp” (carbohydrate rich foods) wood lessens the heat yielded. Too much wood puts out the flames. And wood added to the fire too frequently creates a vast amount of



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soot which decreases the heat produced by the fire over time (another reason laxatives should be used frequently). Risks factors like a sedentary lifestyle contributes towards the development of diabetes as exercise increases heat and a lack thereof has the opposing effect.

The above describes the gradual onset of diabetes mellitus II. In rare cases, sudden onset of diabetes mellitus II may occur. This form of diabetes share similar risks factors to Diabetes Mellitus I which includes shock/trauma, high stress and the use of certain medications e.g. potent antibiotics. This condition is linked to qualities of heat and dryness.

Clinical Features

The earliest symptom of elevated blood glucose is polyuria (*frequent urination*) from the osmotic diuretic effect of glucose. Continued hyperglycaemia and glucosuria may lead to thirst, hunger and weight loss. Glucosuria is also associated with an increased incidence of monilial vaginitis and itching.

6. Genito-Urinary System

The Kidneys

The kidneys are the principal organs of the urinary tract. They are essential to life, and are therefore one of the most vital and important organs of the body. The primary functions of the kidneys are metabolic: to regulate body fluid metabolism and electrolyte balance, and to produce urine, the main liquid waste of the body. In producing urine, the kidneys are assisted by the liver. The liver sorts out the urinary humours as waste products of digestion and sends them to the kidneys for excretion. Uric acid, which colours the urine yellow, is hot and dry or bilious in nature, and is originally a product of the liver. The yellowness of the urine is a good indicator of the heat of the body's metabolism. The darker the shade of yellow, the greater is the heat, and the more wastes are being ripened and eliminated in the urine. Conversely, paleness or transparency of the urine is a sign of coldness. The kidneys are linked to qualities of heat and moistness. Heat is needed for the metabolism of water and electrolytes and moistness for the cleansing and purification of humoral superfluities and waste products.

Prostate

After the testes, the prostate is the most noble organ of the male reproductive system, because it secretes the prostatic fluid. The prostatic fluid gives spermatic fluid the right consistency and vitalizes the sperm as they are ejaculated, enhancing their ability to swim up the uterus to fertilize the ovum. The prostate gland is soft and moist. Its blood supply is poor, and its overall level of metabolic activity is low. These factors, plus the lubricating, expulsive virtue and function of its main product, prostatic fluid, gives the prostate gland a phlegmatic/Cold and Moist temperament.

6.1. Urinary Calculi – Cold and Dry – Excess or abnormal melancholic humour

Urinary calculi occur mainly in men over the age of 30 years. They may form anywhere in the urinary

tract, but the commonest site is within the renal pelvis. Different types vary in frequency around the world, probably as a consequence of dietary and environmental factors, but genetic (temperament) factors may also contribute. Calculi form in the urine either because substances are in such an excess that they precipitate, or because other factors affecting solubility are upset.

Clinical Features

Many calculi are “silent”. Back pain or renal colic may occur when calculi obstruct one or more calyces, the renal pelvis, or the ureter; stones in the bladder may cause suprapubic pain. Typical symptoms of renal colic include excruciating intermittent pain, usually originating in the flank or kidney area and radiating across the abdomen along the course of the ureter, frequently into the region of the genitalia and inner side of the thigh. GI symptoms (nausea, vomiting, abdominal distention) may obscure the urinary origin. Chills, fever, haematuria and frequency of urination are common, particularly as a calculus passes down the ureter. The affected kidney may transiently become nonfunctioning in acute renal colic due to ureteral calculus, even for some time after the stone has been spontaneously passed.

Urinary calculi are linked to qualities of coldness and dryness. It has features linked to the earth element which results in solidification of matter.

6.2. Benign Prostatic Hyperplasia (BPH) – Cold and Moist – Cold and Dry – Excess/Abnormal phlegmatic humour

From the age of 40 years of age increases in volume by 2.4cm³ per year on average. The process begins in the periurethral (transitional) zone and involves both glandular and stromal tissue to a variable degree. Associated symptoms are common from 60 years of age, and some 50% of men will have lower urinary tract symptoms associated with benign prostatic hyperplasia (BPH). BPH is thought to be related to hormonal imbalance. With increasing age, the androgen levels fall with a relative rise in oestrogens (*cold and moist – one of the functions of oestrogen is the storage of fat i.e. development of breast etc. Fat is cold in nature*). The central or peri-urethral group of prostatic glands, which are oestrogen-responsive, undergo consequent hyperplasia. *Obesity (cold and moist) is a risk factor for the development of BPH whilst exercising (hot and dry) decreases your risk.*

Clinical Features

Symptoms of bladder outlet obstruction may include progressive urinary frequency, urgency, and nocturia as a result of incomplete emptying and rapid refilling of the bladder. Hesitancy and intermittency with decreased size and force of the urinary stream occur. Sensations of incomplete emptying, terminal dribbling, almost continuous overflow incontinence, or complete urinary retention may ensue.

7. The Nervous System

The Brain

The brain is a temperate organ, being only slightly cold. Therefore, it is equally vulnerable to excessive heat and fevers as it is to cold and chills. Heat aggravates and excites the mental functions, causing agitation and delirium, whereas cold depresses the mental functions, causing sluggishness and lethargy. The brain is moderately moist by nature, making it a phlegmatic organ. Although excessive phlegm can oppress the brain and mental functions, by far the greater danger is from dryness and dehydration. The watery, phlegmatic nature of the brain is further enhanced by the fluid-filled ventricles which permeate it, and by the meninges which encase it.

7.1. Stroke

Stroke is characterized by the rapid appearance of a focal deficit of brain function, most commonly in a hemiplegia with or without signs of focal higher cerebral dysfunction (such as aphasia – *a disorder of language and content of speech and its understanding*).

Clinical classification of stroke

Transient Ischaemic Attack (TIA) – this describes strokes in which symptoms resolve within 24 hours. The attacks are often recurrent and at times presage a stroke. Most TIAs are due to cerebral emboli arising from plaques or atherosclerotic ulcers involving the carotid or vertebral arteries in the neck. Emboli may also arise from mural thrombi in a diseased heart.

Clinical Features

TIAs appear suddenly, last for 2-30 minutes or more and then disappear without neurologic residua. Consciousness remains intact throughout the episode. Symptoms depend on the arterial system affected. With carotid artery involvement, symptoms generally are unilateral. Ipsilateral (*belonging to or occurring on the same side of the body*) blindness and contralateral hemiplegia (*paralysis on one side of the body*), often with parasthesias (*an abnormal sensation, typically tingling or pricking ('pins and needles'), caused chiefly by pressure on or damage to peripheral nerves*), is classic, but less complete symptoms are more frequent. Aphasia indicates involvement of the dominant hemisphere. When the vertebrobasilar system is involved, symptoms reflect brainstem dysfunction. Confusion, vertigo, binocular blindness or diplopia, and unilateral or, more often, bilateral weakness, and parasthesias of the extremities may be present. Drop attacks (*falling without loss of consciousness*) may result from bilateral leg weakness. Slurred speech (dysarthria) may occur with either carotid or vertebrobasilar involvement.

Progressing Stroke (or stroke in evolution) – the clinical condition manifested by neurological defects

that increase over a 24 – 48-h period, reflecting enlarging infarction or progressive oedema, usually in the territory of the middle cerebral artery.

Complete Stroke – the clinical condition manifested by neurologic deficits of varying severity, usually abrupt in onset and either fatal or showing variable improvement, resulting from infarction of brain tissue due to arteriosclerotic or hypertensive stenosis, thrombosis or embolism.

Clinical Features

In progressing stroke, unilateral neurologic dysfunction (often beginning in one arm) increases painlessly and without headache or fever over several hours or a day or two to involve progressively more of the body ipsilaterally. The progression is usually stepwise, interrupted by periods of stability, but may be continuous.

Acute completed stroke is by far the more common condition. Symptoms develop rapidly, and typically are maximal within a few minutes. By convention, completed stroke also refers to the patient's condition, after either evolving or acute stroke, once symptoms have ceased to progress and are either stable or improving.

In either evolving or acute completed stroke, deficits may worsen and consciousness may become clouded during the next few days because of cerebral oedema or, less often, from extension of the infarct. Severe cerebral oedema can cause a potentially fatal shift in intracranial structures. However, early improvement in function is common unless severe infarction or oedema has occurred. Further improvement is then gradual over days, weeks or months.

The specific neurologic symptoms are determined by the site of the brain infarct. The involved artery can often be inferred from the symptom pattern, although the correlation is not exact. Occlusion of several arteries can cause symptoms described under the following categories.

The distribution of the middle cerebral artery or one of its deep penetrating branches is most commonly involved. Occlusion of the proximal part of the artery, which supplies large portions of the frontal, parietal, and temporal lobes surfaces, results in contralateral hemiplegia, usually severe, with hemianesthesia (*the loss of tactile sensibility on one side of the head as well as on the opposite side of the rest of the body*) and a homonymous hemianopia (*relating to or being diplopia in which the image that is seen by the right eye is to the right of the image that is seen by the left eye*). Aphasia occurs when the dominant hemisphere is affected; *apraxia (inability to perform particular purposive actions)* or *anosognosia (an inability or refusal to recognize a defect or disorder that is clinically evident)* when the non-dominant hemisphere is involved. A contralateral hemiplegia of the face, arm, and leg, sometimes with hemianesthesia, also results from occlusion of one of the deep branches, which supply the basal ganglia, internal or external capsule, and thalamus. Motor and sensory impairment may be less severe when terminal branches are involved. Occlusion of the internal carotid artery leads to infarction in the central-lateral portion of the cerebral hemisphere, with symptoms indistinguishable from those of the

middle cerebral artery occlusion.

Anterior cerebral artery occlusion is uncommon, but affects portions of the frontal and parietal lobes, corpus callosum, and sometimes the caudate nucleus and internal capsule. Contralateral hemiplegia, especially affecting the leg, may be seen. A grasp reflex and urinary incontinence may occur. Bilateral occlusion may cause emotional disturbances with apathy, confusion and occasional mutism (*inability to speak*), plus spastic paraplegia.

Posterior cerebral artery occlusion can affect areas in the temporal and occipital lobes, internal capsule, hippocampus, thalamus, mammillary and geniculate bodies, choroid plexus, and upper brainstem. Contralateral homonymous hemianopia (*blindness over half the field of vision*), hemisensory loss, spontaneous thalamic pain, or sudden hemiballism (*a violent involuntary movement usually restricted to one arm and primary involving the proximal muscles*) may occur; alexia (*an acquired inability to read*) may follow an infarct in the dominant hemisphere.

The vertebrobasilar system supplies the brainstem, cerebellum and portions of the temporal and occipital lobes. Branch occlusions cause combinations of cerebellar, corticospinal, sensory and cranial nerve signs. Complete occlusion of the basilar artery usually causes ophthalmoplegia (*paralysis of the muscles of the eye*), papillary abnormalities, bilateral corticospinal signs (quadriplegia), and changes in consciousness. Pseudobulbar manifestations (dysarthria (*a speech disorder in which the pronunciation is unclear although the language content and meaning are normal*), dysphagia (*a condition in which the action of swallowing is either difficult to perform, painful or in which swallowed material seems to held up its passage to the stomach*), emotional instability) occur frequently. This course is often fatal.

Pathology

Of patients presenting with a stroke, 85% will have sustained a cerebral infarction due to inadequate blood flow to part of the brain which results from vascular occlusion (*cold and dry – see Coronary Heart Disease*). The remainder will have had an intracerebral haemorrhage.

The brain has moist and cold qualities associated with it. When there is a build-up of phlegmatic humour affecting the brain, physis attempts to restore balance through the elimination of mucous via the upper respiratory tract particularly the nose and sinuses. The approach in conventional medicine is to suppress these symptoms with decongestants (drying), anti-histamines (drying) etc. which causes the phlegmatic humour to become hard and dry. Over time, this hardened phlegmatic humour results in vascular lesions e.g. emboli and thrombus, which causes cerebral ischaemia. Unwanted phlegmatic humour must be eliminated in order to maintain balance.

8. The Musculo-skeletal System

The Bones

The bones form the foundation or the skeleton for the body as a whole and serve as the basis for its movement. The bones have various functions such as covering and protection e.g. the cranium. Some bones act as the instruments of defense and protection from friction, shocks and injury like the spinous processes of the vertebrae; some are attached to the parts of the body which need support like the muscles of the tongue and the larynx. Bones are generally solid and are therefore linked to the earth element with qualities of coldness and dryness. Joints are formed by the approximation of bones. They have several varieties. Some joints have sufficient space for movement. In some, the articular distance is so little that they can move only with difficulty. There are others in which the joint is fixed, that is, embedded, sutured or united.

Cartilage

Cartilage is softer than bone. It can be easily bent but it is relatively harder than other tissues. It provides a firm cushion between the bone and soft tissues. In the case of the joints, it prevents the tissues from being torn by the hard bone. It has a temperament of cold and dry, but it relatively more moist than bone which explains its flexibility.

8.1. Osteoarthritis – Cold and Dry – Excess or abnormal phlegmatic or melancholic humour

Osteoarthritis is by far the most common form of arthritis. It shows a strong association with ageing (increasing coldness and dryness) and is a major cause of pain and disability in the elderly. Pathologically it may be defined as a condition of the synovial joints characterized by focal loss of articular hyaline cartilage with proliferation of new bone and remodeling of joint contour. Inflammation is not a prominent feature.

A variety of mechanical, metabolic, genetic or constitutional insults may damage a synovial joint and trigger the need for repair. Often the slow and efficient OA process (Physis response) compensates for the insults, resulting in an anatomically altered but pain-free functioning joint. However, because of either overwhelming or chronic insult or an inherently poor repair response (*melancholic dominant individuals*), it fails, resulting in progressive tissue damage, more frequent association with symptoms, and presentation as 'joint failure'.

A loss of cartilage results in the deposition of calcium pyrophosphate and apatite crystals (*cold and dry*). The bone response immediately beneath the compromised cartilage increases its trabecular thickness (*cold and dry*). Holes ('cysts') often develop, possibly the result of small areas of osteonecrosis (*cold and*

dry) caused by the increased pressure in bone as the cartilage fails in its load-transmitting function. At the margins of the joint there is production of new fibrocartilage (*cold and dry*) which then undergoes endochondral ossification to form osteophyte (*cold and dry*). Despite central and marginal new bone formation, with severe cartilage loss there may be attrition of bone as the two unprotected bone ends wear on each other. Such wear may ablate the trabeculae and lead to smooth, shiny surface (eburnation), often with deep linear grooves. Bone remodeling and cartilage thinning slowly alter the shape of the OA joint, increasing its surface. The synovium undergoes variable degrees of hyperplasia (*the increased production and growth of normal cells in a tissue or organ*). Osteochondral bodies commonly occur within the synovium, reflecting chondroid metaplasia (*cold and dry*) (*an abnormal change in the nature of a tissue*) or secondary uptake and growth of damaged cartilage fragments. The outer capsule also thickens and contracts, usually retaining the stability of the remodeling joint.

Clinical Features

Onset usually is gradual and localized to one or a few joints. Pain, generally the earliest symptoms, is greatest after exercise. Stiffness (fibrositis) commonly follows inactivity but is usually short duration (15-30 minutes). Joint motion is limited in severe cases. Tenderness and crepitus or grating are present. Joint enlargement is present, caused by the proliferative reactions in cartilage and bone and by secondary chronic synovial inflammation. Acute flares of synovitis may occur secondary to calcium apatite or calcium pyrophosphate crystals deposition disease. Deformity and subluxation (*a partial dislocation*) are late findings.

8.2. Rheumatoid Arthritis – Hot and Dry – Cold and Dry (late stage) – Abnormal phlegmatic humour (Salty Phlegm)

Rheumatoid arthritis is the most common inflammatory arthritis in women (*cold and moist*). The typical clinical presentation of RA is a symmetrical, deforming, small and large joint polyarthritis, often associated with system disturbances and extra-articular disease.

Female gender is a risk factor and this susceptibility is increased post-partum and by breastfeeding. Cigarette smoking is a risk factor for RA and for positivity for rheumatoid factor in non-RA subjects.

RA is characterized by chronic inflammation, granuloma formation and joint destruction. The earliest change is swelling and congestion of the synovial membrane and the underlying connective tissue (*hot phlegmatic humour*), which become infiltrated with lymphocytes (especially CD4 T cells), plasma cells and macrophages. Effusion of synovial fluid into the joint space (*phlegmatic humour*) takes place during the active phase of the disease. Hypertrophy of the synovial membrane occurs (*phlegmatic humour*), with the formation of lymphoid follicles resembling an immunologically active lymph node.

Inflammatory granulation tissue (pannus) spreads over and under the articular cartilage, which is progressively eroded and destroyed. Later, fibrous bony ankylosis (*cold and dry*) may occur. Muscles adjacent to inflamed joints atrophy (*cold and dry*) and there may be focal infiltration with lymphocytes.

Clinical Features

Onset may be abrupt, with simultaneous inflammation in multiple joints (*hot phlegmatic humour*), or (more frequently) insidious, with progressive joint involvement. Tenderness in nearly all “active” (inflamed) joints is the most sensitive physical sign.

Rheumatoid arthritis is an inflammatory arthritis which causes joint swelling and a loss of function. The protective property of the phlegmatic humour is lost due to the excessive heat present in this humour.