

## AVIAN INFLUENZA AND CHINESE MEDICINE

Before discussing avian influenza, I will discuss influenza in general from the view point of Western medicine first and then from that of Chinese medicine

### 1. WESTERN MEDICINE VIEW

#### a) Influenza

Epidemiologists predict a new influenza pandemic during the current winter. In fact, whether there will be a new pandemic or not, influenza spreads every winter and accounts for a substantial mortality every year.

Influenza viruses are characterized by a high variability and high infection rate. The so-called "Spanish Flu" of 1918 killed an estimated 40-50 million people world-wide, more than did the First World War.<sup>i</sup> Two other pandemics occurred in 1957 with 2 million deaths and 1968 with 1 million deaths ("Asian" and "Hong Kong" Flu respectively).<sup>ii</sup> The most recent large epidemic in the United Kingdom was in 1989-1990, when an estimated 26,000 people died in association with influenza.<sup>iii</sup>

There are three types of influenza virus, A, B and C. Influenza A viruses are found in humans and animals, whereas B and C are found only in human beings. Infection with influenza produces an immune response with the production of antibodies in the blood which neutralise the virus. If the person encounters the same influenza virus again while the antibodies are still present, the body is protected and the person should not develop the infection.

It is a characteristic of influenza viruses, and especially of the A virus, that they frequently mutate into sub-types so that the virus is "one step ahead" of the natural immunity created by the body. It is usually when sub-types develop that epidemics occur because the antibodies produced will not protect individuals against an influenza virus in which the surface proteins have undergone a significant change since the previous infection.

The latest example of an emerging new subtype is the H5N1 Avian influenza@ virus, first isolated in Hong Kong in May 1997, which previously had only been found in birds and was not associated with disease in humans.

Influenza viruses spread from person to person by tiny droplets produced by coughing and sneezing. The initial site of infection is the lining of the respiratory tract, and the infection has a short incubation period of up to five days. The virus is shed in respiratory secretions starting about one day before the onset of the illness and lasting for about three to five days.<sup>iv</sup>

The classic symptoms of influenza include fever, malaise, headache, aches and pains in the muscles and joints, and a characteristic dry cough and sore throat. The acute illness usually lasts for three to five days but recovery may be slow, and cough and tiredness may persist for two to four weeks post infection. Complications may occur in groups of patients who are particularly at risk (e.g. those with underlying lung disease or those with defective immune systems), and usually affect the lungs and the heart. Upper and lower respiratory tract infections are common and subsequent invasion of the lungs by bacteria may result in the development of pneumonia.<sup>v</sup>

## b) Avian Influenza

An unprecedented epizootic avian influenza A (H5N1) virus that is highly pathogenic has crossed the species barrier in Asia to cause many human fatalities and poses an increasing pandemic threat. The occurrence of human influenza A (H5N1) in Southeast Asia has paralleled large outbreaks of avian influenza A (H5N1), although the avian epidemics in 2004 and 2005 have only rarely led to disease in humans. The largest number of cases has occurred in Vietnam, particularly during the third, ongoing wave, and the first human death was recently reported in Indonesia. The frequencies of human infection have not been determined.<sup>vi</sup>

Human influenza is transmitted by inhalation of infectious droplets by direct contact, and perhaps, by indirect (fomite) contact, with self-inoculation onto the upper respiratory tract or conjunctival mucosa.

In 1997, exposure to live poultry within a week before the onset of illness was associated with disease in humans, whereas there was no significant risk related to eating or preparing poultry products or exposure to persons with influenza A (H5N1) disease. Recently, most patients have had a history of direct contact with poultry, although not those who were involved in mass culling of poultry. Plucking and preparing of diseased birds; handling fighting cocks; playing with poultry, particularly asymptomatic infected ducks; and consumption of duck's blood or possibly undercooked poultry have all been implicated.<sup>vii</sup>

Most patients have initial symptoms of high fever (typically a temperature of more than 38°C) and an influenza-like illness with lower respiratory tract symptoms. Upper respiratory tract symptoms are present only sometimes. Unlike patients with infections caused by avian influenza A (H7) viruses, 23 patients with avian influenza A (H5N1) rarely have conjunctivitis. Diarrhea, vomiting, abdominal pain, pleuritic pain, and bleeding from the nose and gums have also been reported early in the course of illness in some patients. Watery diarrhea without blood or inflammatory changes appears to be more common than in influenza due to human viruses and may precede respiratory manifestations by up to one week. One report described two patients who presented with an encephalopathic illness and diarrhea without apparent respiratory symptoms.

Lower respiratory tract manifestations develop early in the course of illness and are usually found at presentation. In one series, dyspnea developed a median of 5 days after the onset of illness. Respiratory distress, tachypnea, and inspiratory crackles are common. Sputum production is variable and sometimes bloody. Almost all patients have clinically apparent pneumonia; radiographic changes include diffuse, multifocal, or patchy infiltrates; interstitial infiltrates; and segmental or lobular consolidation with air bronchograms.

Radiographic abnormalities were present a median of 7 days after the onset of fever in one study in Ho Chi Minh City, Vietnam, multifocal consolidation involving at least two zones was the most common abnormality among patients at the time of admission. Pleural effusions are uncommon. Limited microbiologic data indicate that this process is a primary viral pneumonia, usually without bacterial suprainfection at the time of hospitalization. Progression to respiratory failure has been associated with diffuse, bilateral, ground-glass infiltrates and manifestations of the acute respiratory distress syndrome (ARDS).<sup>viii</sup>

In Thailand, the median time from the onset of illness to ARDS was 6 days (range, 4 to 13). Multiorgan failure with signs of renal dysfunction and sometimes cardiac compromise, including cardiac dilatation and supraventricular tachyarrhythmias, has been common. Other

complications have included ventilator-associated pneumonia, pulmonary hemorrhage, pneumothorax, pancytopenia, Reye's syndrome, and sepsis syndrome without documented bacteremia.<sup>ix</sup>

## 2. CHINESE MEDICINE VIEW

Acute respiratory infections such as influenza cannot be diagnosed and treated properly without a thorough understanding of the theory of the 6 Stages and particularly that of the 4 Levels. The beginning stages of an acute respiratory infection usually manifest with symptoms of invasions of exterior Wind from the Chinese medicine point of view.

The "Discussion of Cold-induced Diseases" by Zhang Zhong Jing provided the earliest framework for the diagnosis and treatment of diseases from exterior Wind-Cold. Although this famous classic does also discuss invasions of Wind-Heat and their treatment, a comprehensive theory of exterior diseases from Wind-Heat was not developed until the late 1600s by the School of Warm Diseases (Wen Bing). Thus, the two schools of thought which form the pillars for the diagnosis and treatment of exterior diseases in Chinese medicine are separated by about 15 centuries: they are the School of Cold-induced Diseases (School of Shang Han) based on the "Discussion of Cold-induced Diseases" ("Shang Han Lun") by Zhang Zhong Jing (c. AD 220) and the School of Warm Diseases (Wen Bing School) which started in the late 1600s and early 1700s. The main advocates of this school were Wu You Ke (1582-1652), Ye Tian Shi (1667-1746) and Wu Ju Tong (1758-1836).

### Shang Han Lun - The Six Stages

The symptomatology of Wind-Cold was discussed by Zhang Zhong Jing in the "Discussion of Cold-induced Diseases" (c. AD 220) where he first elaborated the theory of the 6 Stages.

The Six Stages are:

- Greater Yang
  - Wind-Cold with prevalence of Cold
  - Wind-Cold with prevalence of Wind
- Bright Yang
  - Channel pattern (Stomach-Heat)
  - Organ pattern (Stomach-Fire)
- Lesser Yang
- Greater Yin
- Lesser Yin
- Terminal Yin

The first stage, Greater Yang, is the only Exterior one. At this stage Wind-Cold is on the Exterior and only the Lung's Defensive-Qi portion is affected, not the Interior. The Lung's diffusing and descending of Qi is impaired and the external Wind is lodged in the space between skin and muscles impairing the circulation of Defensive-Qi.

The essential symptoms of the Greater Yang stage are:

- aversion to cold or shivering
- occipital headache and/or stiff neck
- Floating pulse

"Aversion to cold" indicates the typical cold feeling and shivering which comes on as a wave in the beginning stages of a cold or influenza. It is characteristic in so far as it is not relieved

by covering oneself. Most people who experience a bad cold or flu shiver even in bed under the blankets.

The occipital headache or stiffness is due to the obstruction of Defensive-Qi circulation in the Greater-Yang channels (Small Intestine and Bladder) which flow in that area.

The Floating pulse reflects the rushing of Defensive Qi towards the Exterior to fight the pathogenic factor.

Besides these three cardinal symptoms there are many others such as a runny nose, sneezing, possibly a fever, a cough, body aches, itchy throat, etc. All these are due to the impairment of the diffusing and descending of Qi by the Lungs and by the obstruction to the circulation of Defensive-Qi in the muscles.

In particular, the aversion to cold occurs simultaneously with "emission of heat" (fa re), i.e. the patient's body emits heat and it feels hot to the touch: please note that the patient may or may not have an actual fever. Therefore "aversion to cold" is a subjective cold feeling of the patient while "fever" (or rather "emission of heat") is an objective hot feeling of the patient's body to the touch.

Aversion to cold is caused by the obstruction of the space between skin and muscles by exterior Wind: as the Defensive Qi circulates in this space and warms the muscles, when it is obstructed by exterior Wind, the patient feels cold. The emission of heat is an expression of the fight between the body's Upright Qi and the exterior Wind.

#### Warm Diseases (Wen Bing) - The 4 Levels

What does "Warm disease" mean? This is my own translation of the Chinese term Wen Bing. The above-mentioned doctors from this school of thought introduced important innovations to the theory of Wind in Chinese medicine. The School of Warm Diseases postulates that some exterior pathogenic factors go beyond the natural characters of "Wind"; they are so virulent and strong that, no matter how strong a person's body's Qi may be, men, women and children fall ill by the dozen. More importantly, for the first time in the history of Chinese medicine, these doctors recognized that some external pathogenic factors are infectious.

A further innovative idea stemming from this school was that the pathogenic factors causing Warm diseases, all of them falling under the category of Wind-Heat, enter via the nose and mouth, rather than via the skin as happens for Wind-Cold.

The essential characteristics of Warm diseases therefore are:

- 1) They manifest with the general symptoms and signs of Wind-Heat in the early stages (Wind-Heat is intended here in a broad sense as it may also manifest as Damp-Heat, Summer-Heat, Winter-Heat, Spring-Heat and Dry-Heat)
- 2) There is always a fever
- 3) They are infectious
- 4) The Wind-Heat penetrates via the nose and mouth
- 5) The pathogenic factor is particularly strong
- 6) The Wind-Heat has a strong tendency to become interior Heat
- 7) Once in the Interior, the Heat has a strong tendency to dry up body fluids.

Thus, although all pathogenic factors contemplated by the School of Warm Diseases fall under the broad definition of Wind-Heat, not all diseases caused by Wind-Heat are Warm diseases. Some of the exterior diseases that start with symptoms of Wind-Heat are Warm

diseases (with all the above-mentioned characteristics) and some are not.

Examples of Warm diseases are influenza, measles, chicken-pox, German measles, poliomyelitis, smallpox, scarlet fever, whooping cough or meningitis. Examples of Wind-Heat diseases which are not Warm diseases are common cold (of the Wind-Heat type), some types of influenza, glandular fever (mononucleosis) and any non-specific upper-respiratory infection manifesting with symptoms of Wind-Heat. An influenza epidemic that sweeps the world is always a Wen Bing disease. This is because it is very virulent and has a strong tendency to enter the Qi level (causing chest infections) very quickly.

The distinction between "simple" invasions of Wind-Heat and invasions of Wind-Heat that are a Wen Bing disease is a very important consideration in practice: it is possible to stop diseases from "simple" Wind-Heat at the early stages, but although true Warm diseases may always be alleviated in the initial stages, they may not always be entirely stopped at the initial stages. In particular, in the case of Warm diseases, even though it may not stop them at the Exterior level, Chinese medicine can certainly achieve the following aims:

- Alleviate the symptoms
- Shorten the course of the disease
- Prevent transmission to the Ying and Blood levels (see below)
- Prevent complications
- Prevent the formation of residual pathogenic factors

The treatment of exterior invasions is important because they can have very serious consequences in children and the elderly. In children, many serious diseases start with symptoms of invasion of Wind-Heat: in the initial stages one does not know what disease it might be and it is therefore important to treat the manifestations early. For example, measles, diphtheria, whooping cough, poliomyelitis, acute nephritis, scarlet fever and meningitis may all manifest with symptoms of Wind-Heat in the beginning stage. In the elderly, exterior Wind may easily penetrate the Interior causing bronchitis and pneumonia which is often fatal in old age.

#### a) THE FOUR LEVELS

The 4 Levels are:

- Defensive-Qi (Wei) Level
  - Wind-Heat
  - Damp-Heat
  - Summer-Heat
  - Wind-Dry-Heat
- Qi Level
  - Lung-Heat
  - Stomach-Heat
  - Stomach and Intestines Dry-Heat
  - Gall-Bladder Heat
  - Stomach and Spleen Damp-Heat
- Nutritive-Qi (Ying) Level
  - Heat in Pericardium
  - Heat in Nutritive Qi
- Blood Level
  - Heat Victorious agitates Blood
  - Heat Victorious stirs Wind

## Empty-Wind agitates in the Interior

Collapse of Yin  
Collapse of Yang

The Wei Level concerns the exterior stage of an invasion of Wind-Heat, the other three Levels describe pathological conditions which arise when the pathogenic factor penetrates the Interior and turns into Heat. The four Levels represent different levels of energetic depth, the first being the Exterior and the other three being the Interior. The interesting part of this theory is the distinction, within the Interior, of three different levels, the Qi Level being the most superficial (within the Interior) and the Blood Level the deepest.

The Wei Level of the 4 Levels broadly corresponds to the Greater Yang Stage of the 6 Stages. The former deals with Wind-Heat and the latter with Wind-Cold.

The main symptoms of invasion of Wind-Heat are aversion to cold, shivering, "fever", sore throat, swollen tonsils, headache and body-aches, sneezing, cough, runny nose with yellow discharge, slightly dark urine, slightly Red sides of the tongue and a Floating-Rapid pulse. It is worth noting that in Wind-Heat too there is aversion to cold as this is due to Wind-Heat obstructing the Defensive Qi which therefore fails to warm the muscles.

### i. Aetiology and pathology

An invasion of an exterior pathogenic factor is due to a temporary and relative imbalance between it and the body's Qi. This imbalance may occur either because the body's Qi is temporarily and relatively weak or because the pathogenic factor is very strong. The body's Qi may be temporarily and relatively weak due to overwork, excessive sexual activity, irregular diet and emotional stress or a combination of these. When the body is thus weakened, even a mild pathogenic factor may cause an external invasion of Wind.

"Wind" indicates both an aetiological factor and a pathological condition. As an aetiological factor, it literally refers to climatic influences and especially sudden changes of weather to which the body cannot adapt.

As a pathological condition, "Wind" refers to a complex of symptoms and signs manifesting as Wind-Cold or Wind-Heat. In clinical practice, this is the most important aspect of the concept of Wind. Thus, the diagnosis of "Wind" invasion is made not on the basis of the history (no need to ask the patient whether he or she has been exposed to wind), but on the basis of the symptoms and signs. If a person has all the symptoms and signs of "Wind" (aversion to cold, shivering, "fever", sneezing, runny nose, headache and a Floating pulse), then the condition is one of exterior Wind, no matter what climate that person has been exposed to in the previous days or hours.

Indeed, there are also chronic conditions which manifest with symptoms of "Wind" and are treated as such even though they have no relation to climatic factors. For example, allergic rhinitis (due to house-dust mites or pollen) manifests with symptoms and signs of "Wind" and is treated as such.

Influenza manifests primarily with symptoms of Wind-Heat.

### ii. Simultaneous cold feeling and fever

The simultaneous fever and shivers is the most characteristic symptom of the beginning stages of an invasion of Wind: they indicate that there is an invasion of an exterior

pathogenic factor and that this factor is still at the Exterior level. As long as there are shivers the pathogenic factor is on the Exterior.

I shall now discuss in detail the pathology and clinical significance of the "aversion to cold" and "fever" in the beginning stage of invasion of exterior Wind.

#### Aversion to cold

In Exterior patterns, the aversion to cold and cold feeling is due to the fact that the external Wind obstructs the space between skin and muscles where the Defensive Qi circulates; as Defensive-Qi warms the muscles, its obstruction by Wind causes the patient to feel cold and shiver (even if the pathogenic factor is Wind-Heat). Thus, Defensive-Qi is not necessarily weak but only obstructed in the space between skin and muscles.

In Exterior patterns, both Wind-Cold and Wind-Heat cause a cold feeling and shivering: it is a common misconception that this is not the case with Wind-Heat. Since the cold feeling is caused by the obstruction of Defensive Qi by Wind (whether it is Wind-Cold or Wind-Heat) in the space between skin and muscles, the cold feeling and shivering is present also in invasions of Wind-Heat, albeit to a lesser degree than in Wind-Cold.

Generally speaking, there are three aspects to the "cold feeling" in invasions of exterior Wind: the patient feels cold, he or she has "waves" of shivers, and he or she is reluctant to go out and wants to stay indoors. Except in mild cases, the cold feeling is not relieved by covering oneself.

In conclusion, a feeling of cold in exterior invasions is due to the obstruction of Defensive-Qi in the space between skin and muscles and it indicates that the pathogenic factor is on the Exterior: as soon as the feeling of cold goes, the pathogenic factor is in the Interior.

#### "Fever"

As for "Fever" it is important to understand that the Chinese terms *fa shao* or *fa re* do not necessarily indicate "Fever". "Fever" is a sign in modern Western medicine, not in old Chinese medicine. In old China, there were obviously no thermometers and the symptoms *fa shao* or *fa re* described in the old texts do not necessarily mean that the patient has an actual fever. It literally means "emitting heat" and it indicates that the patient's body feels hot, almost burning to the touch: the areas touched were usually the forehead and especially the dorsum of the hands (as opposed to the palms which tend to reflect more Empty Heat).

In fact, it is a characteristic of *fa re* (so-called "Fever") in the exterior stage of invasions of Wind that the dorsum of the hands feel hot compared to the palms and the upper back feels hot compared to the chest. This objective hot feeling of the patient's body may or may not be accompanied by an actual fever.

When the symptoms of shivers and feeling cold occurs simultaneously with the objective sign of the patient's body feeling hot to the touch (or having an actual fever), it indicates an acute invasion of external Wind and it denotes that the pathogenic factor is still on the Exterior. In particular, it is the symptoms of shivering and feeling cold that indicate that the pathogenic factor is on the Exterior: the moment the patient does not feel cold any longer but feels hot and, if in bed, he or she throws off the blankets, it means that the pathogenic factor is in the Interior and it has turned into Heat.

The "Fever", or hot feeling of the body in external invasions of Wind is due to the struggle between the body's Qi (Upright Qi) and the external pathogenic factor. Thus, the strength of

the fever (or hot feeling of the body) reflects the intensity of this struggle: this depends on the relative strength of the external pathogenic factor and the strength of the Upright Qi. The stronger the external pathogenic factor, the higher the fever (or hot feeling of the body); likewise, the stronger the Upright Qi, the higher the fever (or hot feeling of the body). Thus the fever will be highest when both the external pathogenic factor and the Upright Qi are strong. Therefore, there are three possible situations:

- Strong pathogenic factor and strong Upright Qi: high "fever" (or hot feeling of the body)
- Strong pathogenic factor with weak Upright Qi or vice versa: medium "fever" (or hot feeling of the body)
- Weak pathogenic factor and weak Upright Qi: low "fever" (or hot feeling of the body) or no "fever"

However, the relative strength of the pathogenic factor and the Upright Qi is only one factor which determines the intensity of the fever (or hot feeling of the body). Another factor is simply the constitution of a person: a person with a Yang constitution (i.e. with predominance of Yang) will be more prone to invasions of Wind-Heat rather than Wind-Cold and will be more prone to have a higher fever (or hot feeling of the body). Indeed, it could be said that the constitution of a person is the main factor which determines whether a person who falls prey to an invasion of Wind develops Wind-Cold or Wind-Heat. Were it not so, in cold, Northern countries nobody should fall prey to invasions of Wind-Heat which is not the case. This is also the reason why, in children, invasions of Wind-Heat are far more prevalent than Wind-Cold: this is because children are naturally Yang in nature compared to adults. There are, however, also new, artificial factors which may predispose a person to invasions of Wind-Heat when succumbing to Wind and these are very dry, centrally-heated places, hot working conditions (e.g. cooks, metal workers), etc.

The differentiation between Wind-Heat and Wind-Cold is not made only on the basis of the intensity of shivers and fever (or hot feeling of the body), although it is true to say that a high fever is more likely to occur with invasions of Wind-Heat. Other factors, such as tongue and other symptoms help us to differentiate Wind-Cold from Wind-Heat. This is illustrated in Table 1. An influenza epidemic definitely manifests with symptoms of Wind-Heat in all cases.

The most important thing to establish when we see a patient suffering from an acute respiratory infection is whether the stage of the condition is external or internal, i.e. whether the pathogenic factor is still on the Exterior or is in the Interior. In terms of levels, this means distinguishing whether the patient is still at the Wei level or at the Qi level. The differentiation between the Wei and the Qi level is relatively easy: if the patient suffers from aversion to cold, he or she is still at the Wei level; if he or she does not suffer from aversion to cold but, on the contrary, from aversion to heat, the patient is at the Qi level.

Thus, influenza will always start with manifestations similar to the Wei-Qi level of the 4 Levels. If the pathogenic factor is not expelled at the beginning stages, it will change into Heat and penetrate into the Interior.

Once the pathogenic factor penetrates into the Interior, the body's Qi carries on its fight against it in the Interior: this causes a high fever and a feeling of heat, in marked contrast to the aversion to cold and the shivering which occur when the body's Qi fights the pathogenic factor on the Exterior. At the exterior level, the internal organs are not affected and it is only the Lung's Wei-Qi portion which is involved. When the pathogenic factor becomes interior, the organs are affected and especially the Lungs and/or Stomach (see below).

This stage of development in the pathology of these diseases is crucial as, if the pathogenic



factor is not cleared, it may either penetrate more deeply and cause serious problems (at the Ying-Qi or Blood Level) or give rise to residual Heat which is often the cause of chronic post-viral fatigue syndrome.

In the Interior, the main patterns appearing will be either the Bright-Yang pattern of the 6 Stages or, more commonly, one of the Qi-Level patterns within the 4 Levels. In general, at the Qi Level, either the Stomach or Lung or both are affected.

#### b) WEI LEVEL

The Wei level is the beginning stage of invasions of Wind-Heat: it is the only exterior level, i.e. characterized by the presence of the exterior Wind on the Exterior of the body. The Wei level comprises of four different patterns according to the nature of the pathogenic factor, i.e. Wind-Heat, Summer-Heat, Damp-Heat and Dry-Heat. Of these four, Wind-Heat is by far the most common one.

The clinical manifestations of invasion of Wind-Heat at the Wei Level are "fever", aversion to cold, headache, sore throat, slight sweating, runny nose with yellow discharge, swollen tonsils, body aches, slight thirst, tongue Red in the front or sides with a thin-white coating, Floating-Rapid pulse.

The pathology of aversion to cold and "fever" has already been discussed. The headache is caused by the obstruction of the channels of the head by exterior Wind in the same way as for the Greater Yang Stage. The body aches, which may be very pronounced, are caused by the obstruction of the muscles by exterior Wind. The tongue coating is white because the pathogenic factor is on the Exterior.

A sore throat is due to invasion of the Wind in the Lung channel in the throat: a sore and red throat is a distinctive sign of invasion of Wind-Heat as compared to Wind-Cold.

Table 1. Comparison of Wind-Cold and Wind-Heat.

	WIND-COLD	WIND-HEAT
PATHOLOGY	Wind-Cold obstructing Defensive Qi	Wind-Heat injuring Defensive Qi and impairing the descending of Lung-Qi
PENETRATION OF PATHOGENIC FACTOR	Via skin	Via nose and mouth
FEVER	Light	High
AVERSION TO COLD	Pronounced	Slight
BODY ACHES	Severe	Slight
THIRST	None	Slight
URINE	Pale	Slightly dark
HEADACHE	Occipital	Whole head
SWEATING	No sweating or slight sweating on head	Slight sweating
TONGUE	No change	Slightly Red on the sides

		and/or front
PULSE	Floating-Tight	Floating-Rapid
TREATMENT	Pungent-warm herbs to cause sweating	Pungent-cool herbs to release the Exterior

Three Treasures remedies

Expel Wind-Heat

For invasions of Wind-Heat at the Wei Level. The dosage is at least 9 tablets a day but if the symptoms are severe, an adult can use up to 12-15 tablets per day. Expel Wind-Heat should be a stand-by remedy in any household with children.

Acupuncture

LU-7 Lieque, L.I.-4 Hegu, T.B.-5 Waiguan, Du-14 Dazhui, L.I.-11 Quchi, LU-11 Shaoshang (in case of tonsillitis), BL-12 Fengmen with cupping, BL-13 Feishu.

c) QI LEVEL

If the external Wind is not expelled, it will usually turn into Heat and enter the Interior and most frequently the Lungs. The main symptoms at this stage are aversion to heat, a feeling of heat, possibly fever, cough (which may be dry or productive), slight breathlessness, restlessness, disturbed sleep, thirst, a feeling of oppression of the chest, Red tongue with yellow coating, Deep-Full-Slippery pulse. These are manifestations of the Qi level.

It is a characteristic of avian influenza that it affects the Qi level very quickly and very early on.

The main patterns appearing at the Qi level are:

- Lung Phlegm-Heat
- Damp-Phlegm in the Lungs
- Dry-Phlegm in the Lungs

Three Treasures remedies

Clear Metal

Clear Metal is a new addition to the Three Treasures range. This remedy clears Lung-Heat, clears Ying, benefits fluids. It is used for invasions of Wind-Heat progressing rapidly into the Interior, with Lung- and Stomach-Heat. The location of Heat is at the Qi and Ying/Blood level simultaneously.

This remedy has been formulated specifically for the later stage of influenza when the pathogenic factor has entered the Qi Level and even possibly the Ying level; it may also be used when the pathogenic factor is just beginning to pass from the Wei to the Qi level.

At the first signs of the beginning of influenza (feeling chills, fever, sore throat) take Expel Wind-Heat. If one is in doubt whether the symptoms are those of a "simple" influenza or of those of a more serious type (such as avian influenza), then Expel Wind-Heat and Clear Metal can be taken simultaneously for a couple of days until the clinical manifestations reveal what type of virus it is. If the symptoms persist and progress rapidly to the lower

respiratory tract causing high fever, cough, breathlessness, respiratory distress and inspiration crackles, the patient should stop taking Expel Wind-Heat and take Clear Metal immediately.

Please note that this remedy can be administered concurrently with any Western anti-viral medication.

Dosage: for adults, take 12-15 tablets a day, i.e. 3 tablets 4-5 times a day in between meals. Reduce the dosage for children according to age.

#### Ingredients of Clear Metal

Huang Qin Radix Scutellariae  
Huang Lian Rhizoma Coptidis  
Jin Yin Hua Flos Lonicerae japonicae  
Lian Qiao Fructus Forsythiae  
Da Qing Ye Folium Daqingye  
Ban Lan Gen Radix Isatis seu Baphicacanthis  
Shi Gao Gypsum Fibrosum  
Zhu Ye Folium Phyllostachys nigrae  
Yu Xing Cao Herba Houttuniae  
Chuan Bei Mu Bulbus Fritillariae cirrhosae  
Zhi Mu Radix Anemarrhaenae  
Sheng Di Huang Radix Rehmanniae  
Bai He Bulbus Lili  
Mao Dong Qing Radix Ilicis pubescentis  
Mu Dan Pi Cortex Moutan

#### Clear the Soul

Clear the Soul can be used for acute chest infections following an invasion of Wind, i.e. when the pathogenic factor is Phlegm-Heat at the Qi level. The main manifestations calling for this remedy in this context are: a cough following a cold or flu, expectoration of profuse sticky-yellow sputum, slight breathlessness, a feeling of oppression of the chest, possibly fever, thirst, disturbed sleep, a Full-Slippery pulse, a red tongue with sticky-yellow coating. The dosage is at least 9 tablets per day.

Clear the Soul can be used also for residual pathogenic factor with Phlegm-Heat when the patient suffers from a chronic cough with catarrh and some breathlessness (see below).

#### Acupuncture

LU-5 Chize, LU-7 Lieque, Ren-12 Zhongwan, L.I.-11 Quchi, BL-13 Feishu, Du-14 Dazhui, ST-40 Fenglong.

#### Other prescriptions

There are two prescriptions that I can highly recommend for acute chest infections to be used as a decoction: the first is Qing Qi Hua Tan Tang Clearing Qi and Resolving Phlegm Decoction (Bensky p. 437) for Phlegm-Heat in the Lungs and the second is Qing Zao Jiu Fei Tang Clearing Dryness and Rescuing the Lungs Decoction (Bensky p. 160) for Dry-Phlegm in the Lungs. Both are specific for Heat in the Lungs at the Qi level following an invasion of Wind: the former is for Phlegm-Heat and the latter for Phlegm-Heat combined with dryness.

The clinical manifestations calling for the first formula, Qing Qi Hua Tan Tang, are: a cough with expectoration of profuse, sticky-yellow sputum, slight breathlessness, a feeling of

oppression of the chest, possibly fever, thirst, disturbed sleep, a Full-Slippery pulse, a red tongue with sticky-yellow coating. If cough is the main symptom add Kuan Dong Hua and Zi Wan.

The clinical manifestations calling for the second formula, Qing Zao Jiu Fei Tang, are: a cough that is mainly dry but the patient feels some phlegm in the chest which is expectorated occasionally and with difficulty, a slight breathlessness, a raw feeling in the chest and trachea, a dry mouth. From the point of view of Western medicine this can correspond to tracheitis.

#### d) YING LEVEL

At the Ying Level, the Heat has penetrated to a deeper energetic layer and it has begun to injure the Yin. At this level, Heat is obstructing the Mind and the Pericardium causing delirium and even coma. Fever at night is a distinctive sign of the Ying Level.

The tongue appearance at the Ying Level is an important sign that differentiates this level from the Qi Level: at the Ying Level, the tongue is Deep-Red without coating (while at the Qi Level, it is Red with a thick coating).

#### e) BLOOD LEVEL

The Blood Level is the deepest energetic layer with Heat affecting the Blood. There are several different patterns with varying clinical manifestations but the chief clinical features of the Blood Level are as follows:

- There is Yin deficiency
- Heat is affecting the Blood causing bleeding
- Heat is affecting the Mind causing delirium or coma
- Heat in the Blood causes bleeding under the skin with the appearance of macules
- Internal Wind may develop causing convulsions and tremors
- Collapse of Yin or Yang may occur

Macules are a definite sign that Heat has reached the Blood Level. There are five patterns at the Blood Level, i.e. Heat victorious moving Blood, Heat victorious stirring Wind, Empty Wind agitating in the Interior, Collapse of Yin and Collapse of Yang.

"Blood" here should be intended as a description of the deepest energetic level of the body. When Heat penetrates this level in the context of a Wen Bing disease, the person may die. The chief sign of invasion of the Blood Level by Heat is in fact bleeding, which may be in the stools, in the vomit and under the skin. Indeed, the presence of maculae under the skin always indicate that the Heat has reached the Blood level and the situation is potentially serious.

Table 2 compares the clinical manifestations of the Four Levels while Table 3 differentiates the Four Levels according to tongue appearance.

Table 2. Comparison of Four levels.

Symptoms	WEI	QI	YING/BLOOD
Fever	Slight fever, aversion to cold	High fever, feeling of heat	Fever at night

Thirst	Slight	Intense, desire to drink cold drinks	Dry mouth, desire to sip liquids
Mental state	Unchanged	Maybe delirium, generally mind clear	Delirium, fainting, mind confused
Sweating	Slight	Profuse	Night-sweating
Tongue	Red sides/front, thin-white coating Red sides/front, thin-white coating	Red body, thick-yellow coating	Red body, no coating
Pulse	Floating-Rapid	Big-Rapid, Deep-Full-Rapid or Slippery-Rapid	Fine-Rapid
Summary	Exterior pattern	Interior pattern, Upright Qi strong	Interior pattern, Upright Qi weak

Table 3. Comparison of tongue appearance in Four Levels.

Tongue	WEI				QI	YING	BLOOD
	Wind-Heat	Summer Heat	Dry Heat	Damp-Heat			
Body	Red sides or front	Red	Dry	Red	Red	Deep-Red	Deep-Red
Coating	Thin-white or yellow	Thin-white	Thin-white, dry	White, sticky	Thick, dry, yellow or brown (sticky in Stomach and Spleen Damp-Heat)	No coating	No coating
Remark					Coating more important	Body more important	Body more important

#### f) THE FOUR LEVELS AND AVIAN INFLUENZA

The Four Levels are crucial to understand the pathology of avian influenza. As mentioned above, in the beginning stages of an invasion of Wind during an attack of influenza, the clinical manifestations are those of attack of Wind-Heat at the Wei Level. As indicated above, the essential symptom is the simultaneous occurrence of aversion to cold and "fever".

Influenza, and especially avian influenza, is a type of Warm disease (Wen Bing) and Warm diseases are characterized by the fact that they are infectious and also that the pathogenic factor tends to move into the Interior rather quickly; the Heat or a Warm disease has also the tendency to injure Yin rather quickly.

When the pathogenic factor penetrates into the Interior, it becomes interior Heat and it may affect primarily the Lungs, Stomach and Intestines. As mentioned above, it is a brilliant aspect of the theory of the Four Levels, that, when Heat is in the Interior, it distinguishes between three different levels of Heat, i.e. Qi, Ying and Blood levels. The Qi Level is never serious enough to cause death and there is saying that states "nobody can die at the Qi Level". The Qi level is characterized by Full-Interior-Heat with symptoms of fever, thirst, feeling of heat, mental restlessness, Red tongue with thick-yellow coating and a Rapid-Full pulse.

The Ying and Blood levels are more serious and can potentially lead to death. The main characteristic of the Ying and Blood levels is that the Yin is severely damaged and dried up by the Heat, the Mind is affected (delirium or coma) and the Blood is affected.

If we analyze the clinical manifestations of avian influenza, we can see clearly that it is a type of Wen Bing disease that progresses to the Qi Level very quickly affecting both the Lungs and the Large Intestine. We can also see that some clinical manifestations indicate that the Ying and Blood levels are also affected rapidly during the course of the infection.

I will report below the clinical manifestations listed above with their interpretation in terms of the Four Levels:

- Upper respiratory tract symptoms are present only sometimes: the pathogenic factor leaves the Wei Level rapidly
- High fever (typically a temperature of more than 38°C) and an influenza-like illness with lower respiratory tract symptoms: Qi Level with Lung-Heat
- Lower respiratory tract manifestations develop early in the course of illness and are usually found at presentation: pathogenic factor progresses very rapidly to the Qi Level and hardly stays any time at all at the Wei Level
- Diarrhea, vomiting, abdominal pain: Qi Level with Heat in Stomach and Intestines
- Pleuritic pain: Qi Level with Lung-Heat
- Dyspnea, respiratory distress, tachypnea, and inspiratory crackles: Qi Level with Lung-Heat
- Almost all patients have clinically apparent pneumonia: Qi Level with Lung-Heat
- Watery diarrhea without blood or inflammatory changes: Qi Level with Heat in the Stomach and Spleen
- Sputum: Qi Level with Phlegm-Heat in Lungs
- Bleeding from the nose and gums: Blood Level with Heat in the Lungs and Stomach
- Pulmonary hemorrhage: Blood Level with Lung-Heat
- Sepsis syndrome: Toxic Heat at the Blood Level
- Multi-organ failure with signs of renal dysfunction and sometimes cardiac compromise: Collapse of Yin or of Yang

## END NOTES

- i WHO website.
- ii Ibid.
- iii Association of Microbiologists (UK) website, 1998.
- iv Ibid.
- v Ibid.
- vi New England Journal of Medicine, Vol. 353, No. 13, 2005, pp. 1374-1385.
- vii Ibid.
- viii Ibid.
- ix Ibid.

