

The Herbalist's Corner

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PLOTTING ACUTE COUGH

In the November, 2006 and January 2007 issues of *Acupuncture Today*, Craig Williams offered two good articles on chronic cough for deficiency conditions, referring to classical Chinese formulas plus the additions of *dong chong xia cao* (Cordyceps sinensis), *ling zhi* (Ganoderma lucidum), and other Chinese and Western herbs. The last article in his series talks about Ayurvedic herbs in treating chronic respiratory problems.

Whereas Craig offered 3 articles on chronic cough, in this article I want to address the management of acute cough. Are we saturating you with articles on cough? ¹ I don't think so. In my clinical practice I treat someone with a cough every day, and in the winter, it might be 40% of the cases that come in. A sudden onset cough, once entrenched, can linger for weeks before resolving completely in the absence of good herbal treatment. Because TCM separates cough into various differentiations, it offers one of the best therapies, and because cough is such a frequent clinical presentation, it is important for practitioners to treat it correctly. Many TCM practitioners, however, mismanage the treatment of cough, giving the wrong medicine for the wrong stage, not employing herbs to fight the causative microbes, and not predicting the timing of how and when a cough will change, when it will need a new medicine.

To begin with, it is important to remember that all acute coughs are due to pathogenic microbes, with the lion's share being virus. Only 5% of coughs are actually bacterial. ² It is important for practitioners of TCM herbal medicine to evaluate whether

¹ I have previously addressed pertussis (whooping cough) in articles for *Acupuncture Today*, in July 2006 and September, 2006.

² "Most coughs in children are brought on by the viruses that cause colds and the flu. Rarely, pertussis (whooping cough) or pneumonia is the cause of a prolonged cough.", Department of Health, Oregon, <http://www.patient.co.uk/showdoc/23069192/> Also, "Antibiotics don't work for acute bronchitis. Now we have strong evidence saying that it shouldn't be used for this purpose." The Lancet May 11, 2002;359:1648-1654

viruses are playing an active enough part that anti-viral herbs need to be added to the therapy. This is most likely in the very first stages of a cough, especially when signs of a common cold precede the cough: runny or stuffy nose, achy muscles, headache, sore throat, or slight fever. At this point one should add, in addition to a formula for cough, herbs with strong anti-viral properties. This can easily be done by adding in products such as Gan Mao Ling or the patent medicine Chuan Xin Lian.

As for the treatment of the cough itself, it is best to determine which stage the cough is presenting. I feel that coughs can be categorized into seven distinct stages, the first four of these qualifying as acute cough, and the last three stages as chronic cough, but which may have had its origins in an acute cough.

These stages can be plotted on a graph, if we allow the vertical bar to indicate temperature, and the horizontal bar to indicate viscosity. Temperature reads from cold to hot, and viscosity reads from wet to dry. Wet goes through the stage of very wet, to sticky, to dry.

Stage 1: Pathogenic Wind-Heat.

This stage may immediately follow early signs of a common cold (achy, stuffy, sore throat), or it may appear as the first stage. It is distinguished as having a slight dry cough without any phlegm. The cough is slight or weak, but not as weak as Stage 7, the *yin* deficiency cough. In any event, *yin* deficiency cough occurs after an illness, in contrast to wind-heat cough, which occurs following health, as an early stage of common cold.

This stage will last from one to 3 days before either resolving (and going away), or transforming into one of the other stages. The formula of choice is *sang ju yin*, a formula developed by Wu Ju-Tang in 1798. (Wu is also the formulator of *yin qiao san*). The ingredients are *sang ye* (Folium Morus Alba), *xing ren* (Semen Prunus Armeniaca), *jie geng* (Radix Platycodon), *lu gen* (Rhizome Phragmites), *lian qiao* (Fructus Forsythia), *ju hua* (Flos Chrysanthemum), *bo he* (Herba Mentha), and *gan cao* (Radix Glycyrrhiza). *Sang ye* dispels wind heat from the lung, and it is reinforced by *xing ren*. Other heat clearing herbs include *lu gen*, *ju hua*, *bo he* and *lian qiao*. *Lian qiao* has the additional quality of being an effective herb against respiratory viruses. *Jie Geng* helps bring the formula to the lungs.

TEMPERATURE**Hot****2****3****4****1****7****5****Cold****6****Watery****Wet phlegm****Sticky Phlegm****Dry****VISCOSITY**

<p>1. Wind-Heat (acute dry cough)</p> <p>2. Lung Fire (barking painful cough)</p> <p>3. Profuse phlegm-heat (rattling cough)</p> <p>4. Sticky phlegm-heat (harsh unproductive cough)</p>	<p>5. Profuse phlegm-damp (rattling cough)</p> <p>6. Watery phlegm-damp (wet cough)</p> <p>7. Yin deficiency (weak dry cough)</p>
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Stage 2: Lung Fire.

The next stage is that of Lung Fire. This is a particularly uncomfortable stage, manifested by a harsh barking cough. Here we have fire in the lung, which is to say extreme heat. It is always due to a pathogen, either viral or bacterial, and we see it commonly in children, including croup. This stage is quite short lived, because the fire quickly encourages the lung to react protectively with phlegm, and, untreated, this stage turns into phlegm-heat (stage 3).

Lung fire is actually an easy stage to treat because fire easily clears with cold herbs such as *huang qin* (Radix Scutellaria Baicalenses) or *zhi zi* (Fructus Gardenia). A good formula would ordinarily be the patent medicine Qing Fei Yi Huo Wan (Gong Tingxian, 1587) and available from both Tianjin Brand and Plum Flower, but unfortunately both these products have a level of *da huang* that is too high for most Americans. The Tianjin version puts *da huang* at 18%, which might cause the patient to experience abdominal cramping or loose stools. Of course, if you are making the formula yourself, just reduce the amount of *da huang* to 6% or lower.

Another appropriate formula is Gong Tingxian's formula Huang Lian Shang Qing Pian, which is available from both Tianjin and Plum Flower. Here, the level of *da huang* is even higher, at 25.2%³ One American company, Bio Essence, had the insight to reduce the dosage of *da huang* to 6.4%. The complete formula is as follows: *zhi zi* (Fructus Gardenia), *lian qiao* (Fructus Forsythia), *jing jie* (Herba Schizonepeta), *xuan shen* (Radix Scrophularia), *huang qin* (Radix Scutellaria Baicalenses), *ju hua* (Flos Chrysanthemum), *bo he* (Herba Mentha), *da huang* (Radix Rheum) and *huang lian* (Rhizome Coptis).

This is quite a cold formula, cold enough to extinguish lung fire. Significantly, herbs such as *zhi zi*, *lian qiao*, *xuan shen*, *huang qin*, *da huang* and *huang lian* – accounting for 61.5% of the formula – all have antimicrobial properties.

Other products come to mind for the lung fire stage. Seven Forests' Belamcanda 15 uses herbs such as *she gan* (Rhizome Belamcanda), *yu xing cao* (Herba Houttuynia), *bai bu* (Radix Stemona) and *lu gen* (Rhizome Phragmites) to clear harsh coughs due to heat. The classical formula *yang yin qing fei tang* is available as a syrup, and is a good adjunct, especially to relieve cough during the middle of the night.

³ For complete formula with percentages, see Fratkin, *Chinese Herbal Patent Medicines, The Clinical Desk Reference* (Shya Publications, 2001), p. 108-110.

Stage 3: Phlegm-Heat.

The above formulas can clear lung fire cough quickly, within one to two days, but if the cough doesn't go away, it will transform into Stage 3, Phlegm-Heat. Stage 3 always exhibits a rattle cough, which can expectorate relatively easily. The discharge is bright yellow (acute heat), brownish-yellow (a little later in the duration of the cough) or greenish-brown (after acute heat has left and is transforming to phlegm-damp.)⁴ In children, who tend to swallow their phlegm, a confirmation can be made if yellow nasal discharge accompanies the cough.

Phlegm is difficult to transform⁵ This is why it is best to aggressively treat cough before it reaches the phlegm stage, namely at the Wind-Heat or Lung Fire stages. The best substances to transform phlegm involve bile or gallbladder from snakes or pig, which emulsify phlegm the same way it emulsifies fat. Often herbs such as *nan xing* (Rhizome Arisaema) or *chen pi* (Pericarpium Citrus Reticulata) are stir-fried in bile (*dan*) to enhance an anti-phlegm effect. The better products will employ *dan nan xing*, for example. The formula of choice is *qing qi hua tan tang* (Wu Kun, 1584) which is available from many manufacturers. The ingredients include the following: *dan nan xing* (Rhizome Arisaema), *ban xia* (Rhizome Pinellia), *gua lou ren* (Semen Trichosanthes), *huang qin* (Radix Scutellaria Baicalenses), *chen pi* (Pericarpium Citrus Reticulata), *xing ren* (Semen Prunus Armeniaca), *zhi shi* (Fructus Immaturus Citrus Aurantium) and *fu ling* (Sclerotium Poria Cocos).

This formula (and formulas like it) can be effective, but once phlegm settles in, it is difficult to remove. Untreated, this stage will last at least seven days, and sometimes up to 6 weeks. With herbal formulas, we expect gradual improvement over seven days, with lessening of frequency and severity of cough. The addition of the loquat-fritillaria syrups

⁴ Rarely, the discharge will be a caseous brown, with the texture of a moldy yogurt. This is actually bacterial pus mixed with phlegm, and indicates serious bacterial pneumonia. In this case, the patient usually has high fever and is quite ill, and should be hospitalized with antibiotics.

⁵ The term *hua tan* means to “transform phlegm”, rather than “expectorate phlegm”. It indicates the therapeutic strategy of liquifying phlegm so that it can be discharged through stool.

are somewhat helpful, but should never be relied on in isolation. I like to use the enzyme bromelain, 1 to 2 capsules without food, 2 x day, to help break up phlegm.

In both stage 2 (lung fire) and stage 3 (phlegm-heat), when there is a strong microbial component (which is to say harsh and stubborn), I use the syrup Hsiao Keh Chuan: Special Medicine for Bronchitis (Harbin), which contains the single herb *man shan hong* (Radix Rhododendron Dauricum). The taste is a little bitter, and use for longer than 3 days is considered slightly toxic. I have no reservations giving it to children, however, if we use it for 2 days or so.

Stage 4: Sticky Phlegm-Heat.

This stage usually comes after a more wet stage, and manifests as a harsh cough with no expectoration. By listening to the cough, or with a stethoscope, you can determine that the lungs still have phlegm. The cough has a rattly nature to it, and if there is expectoration, it is usually small tiny pieces. This stage can come before or after stage 3, phlegm-heat. It indicates heat with consumption of *yin*, and the therapeutic strategy is to clear heat, transform phlegm, and tonify lung *yin*. This last part is important. Usually if we tonify lung *yin* during phlegm, it aggravates and builds the phlegm. But in this stage, it is important to moisten the lungs slightly in order to allow the phlegm to release from the bronchioles. This can be accomplished with herbs like *mai men dong* (Tuber Ophiopogon), *tian men dong* (Tuber Asparagus), and so on. But it is still important to clear heat and transform phlegm. Formulas like *ning sou wan* ⁶ or Broncho-Phase (from Tango) address this stage. ⁷ The ingredients for Broncho-Phase include *She Gan* (Rhizome Belamcanda), *Gua Lou Ren* (Semen Trichosanthes), *Tian Men Dong* (Tuber Asparagus), *Chuan Bei Mu* (Bulbus Fritillaria Cirrhosa), *Zhi Ke* (Fructus Citrus Aurantium), *Huang Qin* (Radix Scutellaria Baicalenses), *Bai Bu* (Radix Stemona), *Chuan Xin Lian* (Herba Andrographis), *Zhi Zi* (Fructus Gardenia), *Sang Bai Pi* (Radix Cortex Morus Alba), *Jie Geng* (Radix Platycodon), *Xing Ren* (Semen Prunus Armeniaca) and *Gan Cao* (Radix Glycyrrhiza).

⁶ Available in product form from Plum Flower as Quiet Cough.

⁷ Full disclosure: I am the formulator of Broncho-Phase, based on frequent use of this formula in my own clinic.

Stage 5: Phlegm-Damp.

This stage usually comes after phlegm-heat, and can settle in for a long period. Here, the phlegm is white or clear, and indicates that all heat pathogens are gone. There is usually a chronic rattly cough, with easy expectoration. The treatment strategy is to transform phlegm-damp, using formulas like Qi Guan Yan Wan. Because this stage (as well as the two stages described below) enters the realm of chronic, rather than acute, cough, I will not go into much detail.

Stage 6: Watery Phlegm-Damp.

This stage exhibits excessive water in the lung, and is often seen in emphysema in the elderly. Here, the mouth seems full of water, with the patient actually spitting out water. The synergistic use of herbs like *lai fu zi* (Semen Raphanus), *bai jie zi* (Semen Brassica), and *su zi* (Fructus Perilla), are used in prescription formulas such as *san zi yang qing tang*. This stage of cough is not particularly a sequelae of an acute stage, but can stand alone as a chronic condition.

Stage 7: Deficiency of lung yin.

Deficiency of lung yin may follow a long course of cough, and can also be seen in smokers and patients with AIDS or tuberculosis. It can stand alone as a progression of deficiency of kidney yin in older patients, or following chronic illness. Recovery is slow due to long-term deficiencies of *qi* which accompany deficiency of *yin*. It should not be confused with stage 1, early pathogenic wind-heat. Effective prescriptions include *bai he gu jin tang*, *mai wei di huang wan*, and *sha shen mai men dong tang*.

In conclusion, please pay attention to the exact stage of a cough, demonstrated in my chart. With careful attention, and foresight that stages can and will transform, appropriate Chinese herbal interventions will prove successful.