

Children's Ear Infections, Part Two: Chinese Herbal Treatments

John Heuertz, DOM

The first part of this discussion, which appeared in the [April 2006](#) issue of *Acupuncture Today*, focused on the pathophysiology of acute otitis media (AOM) in children and the problems stemming from antibiotic treatment of this condition. Part two attempts to guide the practitioner through the treatment of the various patterns of AOM that can manifest.

Three Most Common Patterns

As a parent/practitioner active in both classroom and daycare settings, I have had the opportunity to treat many cases of AOM. Typically, the child with AOM will present with a common wind-heat pattern, or there will be cold damage turning to heat in either the *tai yang* or *shao yang* channels. All three of these patterns can be treated successfully with a single formula.

The best formula I have found for the routine treatment of pediatric AOM is a modification of three common formulas: *yin qiao san*, *xiao chai hu tang* and *bi min gan wan*. The first of these, *yin qiao san*, has a strong action to dispel wind-heat and resolve toxin. The second, *xiao chai hu tang*, is a *shao yang*-stage formula. Since the *shao yang* channel enters the ear, the inclusion of *xiao chai hu tang* can help direct the rest of the formula to the middle ear. The third formula, *bi min gan wan*, opens and drains the sinuses and other orifices in the head, which can help restore the balance of pressure between the nasopharynx and the Eustachian tube.

This combination was reduced to its therapeutic essentials and augmented to focus its actions specifically on ear infections. When using this formula, relief of ear pain is usually experienced in two hours or less, with complete resolution in one to three days.

Below is a full list of ingredients for a day's treatment of AOM with this formula. Amounts are based on a 25- to 40-pound child. If the AOM pattern is one of the common three mentioned above, doubling or tripling this formula can usually treat the entire course of AOM (two to three days).

- agastache (*huo xiang*), 3-4 g
- poria (*fu ling*), 3-4 g
- chrysanthemum (*ju hua*), 2-3 g
- coptis (*huang lian*), 2-3 g
- forsythia (*lian qiao*), 2-3 g
- paeonia (*chi shao*) 2-3 g
- peucedanum (*qian hu*), 2-3 g
- angelica (*bai zhi*), 1-2 g
- bupleurum (*chai hu*), 1-2 g
- fritillaria (*zhe bei mu*), 1-2 g

- pinellia (*ban xia*), 1-2 g
- vitex (*man jing zi*) 1-2 g
- zingiberis (*shen jiang*), scant 1 g

Most parents report significant improvement in their child within the first two to three hours after administration of the initial dose. After the pain has subsided significantly and fever has dropped, you may reduce frequency to every four hours. If fever becomes very mild and no pain is present, you may continue with the same-size dose, but administered only three to four times a day.

A normal course of treatment during a moderate infection looks something like the following:

- Pain subsides in one to three hours, and is gone two to three hours after second dose (four to six hours after first dose).
- One more dose is given two to three hours later; fever drops shortly after that. Change the administration to every four hours at this point.
- Continue every four hours for about one day, or until fever is eliminated.
- As a precaution, continue administering the formula about every six to eight hours (three times a day) for one to two days after fever has maintained below 100.5° F.
- Refrigerate in between doses to keep fresh.
- Discard the formula when course is finished or after the third day.

Modifications

Generally, the first two ingredients (agastache and poria) are emphasized slightly in order to focus the formula on relieving pressure in the ear canal and resolving pain. Usually, less zingiberis is used than the other ingredients. It is important to harmonize and protect the middle warmer during the treatment course, but one must take care not to make the formula too warm for a child with a wind-heat condition. If RSV (respiratory syncytial virus) is suspected, augment the forsythia; for vomiting, augment the pinellia and coptis. If symptoms differ from a typical wind-heat pattern, consider one of the other formulas mentioned below.

This formula destroys pathogens and reduces inflammation. It resolves phlegm in the head, supports digestive function and preserves the *wei qi* (defensive *qi*) to prevent recurrence. It contains ingredients shown to possess essential antibacterial and antiviral action,¹⁻⁴ and which also are beneficial for treating other signs and symptoms of the pattern. Poria, chrysanthemum and peucedanum all can reduce edema in the ear.⁵⁻⁷ Coptis, chrysanthemum and forsythia have strong anti-inflammatory action.⁸ Pressure in the ear can cause distress and pain for children; red peony root and angelica⁹ both have an analgesic property with an affinity for the head. Bupleurum and pinellia¹⁰ each have a mood regulating action. Poria and fritillaria work together to guide pathogens out of the body through the urine.¹¹

This AOM formula can be administered to prevent an initial infection from developing into otitis media. If the child has a recently developed mild fever, a red tympanic membrane that is not yet bulging, or sinus congestion in which the heat factor is more pronounced than the congestion, this formula can be used to prevent this condition from developing into AOM.

Other Patterns/Formulas

Though wind-heat is the most common TCM pattern of true AOM, it is important to distinguish between the wind-heat pattern and other conditions and patterns.

Toxic heat. Profuse suppuration and high fever indicate the presence of toxic heat. Severe headache may be part of the pattern. To treat successfully, you will need to add *huang lian jie du tang* to the pediatric ear formula. This is a serious condition and, in rare cases, can lead to deafness. Treat quickly and with care. (Note: When combining these two formulas, you should decide upon one to use as the lead formula and the other as its assistant. The lead formula can be given at full strength; the assistant at one-half to three-quarter strength. To determine the lead formula, determine whether there is an underlying condition of toxicity that led to the AOM, or whether the AOM developed into a toxic condition. In the case of underlying toxicity, *huang lian jie du tang* should be your lead, while the pediatric ear formula guides it to the auditory canal and sinuses. If the AOM was contracted entirely from the exterior and developed into a toxic condition, the ear formula will be your lead and the *huang lian jie du tang* will be used at one-half or three-quarter strength to augment the lead formula.)

Wind-cold attacking the outer ear. This is often misdiagnosed due to an apparent lack of heat in the child. I strongly suggest purchasing an otoscope if you plan on treating children with ear infections. The key for diagnosing wind-cold attacking the outer ear is ear pain with absence of swelling and redness in the tympanic membrane, plus a slight blue or purple color change in the cartilage of the ear. If there is ear pain causing a headache with only slight or no fever, a runny nose with clear discharge, and you are unable to detect any heat or swelling in the middle ear, then clearing wind-heat will be of little value. A cold pathogen has invaded from the exterior of the ear and has been conducted to the middle ear. For the least invasive treatment of this pattern, try warming the outer ear with a tiger warmer or indirect moxa at GB 2. A TDP lamp can be helpful, if the child can be trusted to lie still. If these methods are too risky for younger children, a hot water bottle or heating pad, carefully monitored by the parent, may do the trick in mild cases. In more stubborn cases, or where there is an underlying deficiency of yang, using *dang gui si ni san* (*tang kuei* and jujube combination) combined with *chuan xiong cha tiao san* (ligusticum & tea formula) can warm both the core and the head from the inside to dispel the cold, and relieve ear pain and headache.

Liver and gallbladder fire. Onset of pain will be rapid, as in a wind-heat condition, but pain may be mild and chronic, with a sudden trigger for acute, severe pain. Yellow discharge is likely. The child probably will have a ringing in the ear that accompanies the pain and have a bitter taste in his or her mouth. The recent history will not necessarily include a viral exposure. Though bacteria will show up in the exudates, the underlying cause is not viral or bacterial, but induced by stress and diet. In the days leading up to the acute attack, the child will likely appear irritable or nervous. He or she will have a thick, yellow, greasy tongue coat and/or a diet high in fat and/or sugar. The best formula to treat this is *long dan xie gan tang*.

Caution: *Long dan xie gan tang* is very cold, not unlike antibiotics. If given to younger children (under age 7), inappropriately prescribed, or given to children with already weakened digestion, the formula can damage the spleen *qi*. The damage is usually not as severe as antibiotics. Yeasts are killed by this formula, too, so the chance of a yeast infection developing as a result of using *long dan xie gan tang* is small. When there is a question about the child's digestive strength and this formula is otherwise appropriate for the condition, combine with a digestion-strengthening formula such as *bu zhong yi qi wan* or *liu jun zi tang*.

If you can learn to treat children's ear infections properly, you will have great success with your

younger patients, and their parents will be most grateful.

Notes

1. Schinkovitz A, et al. *Planta Med* April 2004;69(4):369-71.
2. Lechner D, et al. *Phytochemistry* February 2004;65(3):331-5.
3. Bermejo P, et al. *Planta Med* February 2002;68(2):106-10.
4. Anonymous. *Alternative Med Rev* April 2000;5(2):175-7.
5. Kaminaga T, et al. *Phytotherapy Research* November 1996;10(7):581-4.
6. Yasukasa K, et al. *Phytotherapy Research* November 1998;12(7):484-7.
7. Hiermann A, Schantl D. *Planta Med* June 1998;64(5):600-3.
8. For coptis, see Schinella GR, et al. *Life Sciences*, Jan. 18, 2002;70(9):1023-33, 2002. For forsythia, see Ozaki Y, et al. *Bio and Pharm Bull* March 2000;23(3):365-7. For chrysanthemum, see Akihisa T, et al. *Phytochemistry* December 1996;43(6):1255-60.
9. Yuan CS, et. al. *Journ Clinical Pharm* November 2004;44(11):1323-7.
10. Luo L, et. Al. *Journ of Ethnopharm* November 2000;73(1-2):277-81.
11. Poria is well-established as an herb that drains dampness through the urine (see any Chinese *materia medica* such as that of Bensky, Clavey and Stöger). Fritillaria is shown to enhance renal function, increase the output of urine and the clearance and excretion of creatinin and sodium. See Kang DG, et al. *Journ of Ethnopharm* March 2004;91(1):51-6.

JULY 2006