

TCM Management of Side-Effects of COVID-19 Vaccination

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Abstract

At the time of writing, the number of patients infected by COVID-19 and resulting deaths are still increasing worldwide, although the effectiveness of the available vaccines bodes well. However, side-effects of these vaccines have been reported, attracting expert and public attention. Although most of these side-effects are minor and transient, some can be more serious and long-term, and need medical intervention. According to traditional Chinese medicine (TCM) theory, most of these side-effects are the result of an invasion of external pathogenic wind-cold or toxic heat, exacerbated in some instances by underlying chronic illness or constitutional weakness. All of these factors need to be considered and treatment applied correctly in order to relieve symptoms and prevent long-term side-effects. This article describes the pathomechanism of vaccine side-effects and their treatment with TCM.

Keywords

COVID-19, vaccine, side-effects, TCM, acupuncture, Chinese herbal medicine

As of 14th May 2021, there have been 160,686,749 confirmed cases of COVID-19 globally, including 3,335,948 deaths.¹ The good news is that vaccines from AstraZeneca, Pfizer/BioNTech (henceforth referred to as simply the Pfizer vaccine), Moderna and Johnson & Johnson are now available in many countries. Except for the Johnson & Johnson vaccine, which only needs one dose, the rest require two doses. According to official reports, all of these vaccines are highly effective at preventing COVID-19. For instance, Pfizer has been shown to be 95 per cent effective.² However, some have raised doubts; Peter Doshi, an associate editor of the *British Medical Journal*, has questioned the results of the Pfizer and Moderna vaccine trials.³ Ideally a pandemic vaccine should be deliverable in a single shot in order to vaccinate as many people as promptly as possible, it should be easy to ship and store, and trigger no side-effects other than a sore arm. Unfortunately, this is not the case for the Pfizer and

Moderna COVID-19 vaccines, at least not yet.⁴ Fevers and aches following these jabs are not dangerous but can be intense for some.⁵ Short-term pain at the injection site is widespread with both vaccines - roughly 90 per cent of those who received the Moderna vaccine reported pain,⁶ as did 80 per cent of those who received the Pfizer vaccine.⁷ In both trials, injection-site pain was infrequent in people who received a placebo. In research in the US, FDA analysis showed that neither the Pfizer or Moderna vaccines caused problems that would make emergency use unwarranted.⁸

Fewer than two per cent of Pfizer and Moderna vaccine recipients developed severe fevers with a temperature of 39 to 40 degrees Celsius. However, if the companies win regulatory approval, they aim to supply vaccines to 35 million people globally.⁹ If two per cent of recipients experience severe fever, that equates to 700,000 people, while the other transient side-effects would affect even more people. The independent board that conducted the

interim analysis of Moderna's huge trial found that severe side-effects included fatigue (9.7 per cent of participants), muscle pain (8.9 per cent), joint pain (5.2 per cent) and headache (4.5 per cent).¹⁰ These numbers were lower for the Pfizer vaccine, which caused severe side-effects of fatigue (3.8 per cent of participants) and headache (2 per cent).¹¹ There have been reports of deaths due to this vaccine; ten people have died in Germany after receiving the Pfizer vaccine, as reported in *Der Spiegel*.¹²

The Pfizer and Moderna COVID-19 vaccines were developed using messenger RNA (mRNA) technology. They prime the immune system to attack the coronavirus by delivering a snippet of the genetic code of the virus. This code, or mRNA, instructs the body to build copies of the spike protein that stud the virus surface. The immune system responds by creating antibodies, which remain on standby until confronted by an actual infection.¹³ With reference to the side-effects of these vaccines, Drew Weissman, the immunologist whose research contributed to their development, stated, 'We suspect the lipid nanoparticle causes the reactogenicity, because lipid nanoparticles without mRNA in them do the same thing in animals'¹⁴ and 'We see production, in the muscle, of inflammatory mediators that cause pain, redness, swelling, fever, flu-like symptoms.'¹⁵ Longer-term side-effects of mRNA vaccines remain theoretical, but include the possibility that patients with autoimmune conditions such as lupus, whose disease is driven by antibodies against their genetic code, could experience flare-ups because of the increase in immune response induced by the vaccine.¹⁶

A safety report released by the Medicines & Healthcare Products Regulatory Agency (MHRA) in the UK using data up to 5th May 2021 showed an estimated 11.4 million first doses of the Pfizer vaccine and 23.3 million first doses of the AstraZeneca vaccine had been administered, along with around 8.7 million and 7.5 million second doses respectively. A smaller number of 0.1 million first doses of the Moderna vaccine had also been given. Following these vaccinations, 55,716 'yellow cards' (i.e. adverse drug reactions) have been reported for the Pfizer vaccine, 167,141 for AstraZeneca, 1081 for Moderna and 606 where the brand of the vaccine was not specified. For the Pfizer and AstraZeneca vaccines the overall reporting rate of adverse effects is around three to six yellow cards per 1,000 doses administered.¹⁷ This suggests that the rate of side-

effects of the AstraZeneca vaccine is relatively high.

This article explores the adverse effects of COVID-19 vaccines from the perspective of Chinese medicine, and their clinical management with Chinese herbs and acupuncture.

TCM analysis of COVID-19 vaccines

From the perspective of TCM, vaccine side-effects are consistent with an invasion of external pathogenic factors:

- The vaccines enter the body through the skin in the same way as other external pathogenic factors.
- Patients develop flu-like symptoms.
- Symptoms start suddenly.
- The symptoms are due to the conflict between the zheng (upright) qi and xie (pathogenic) qi.
- Symptoms are mostly temporary.

According to TCM, these external invasions can be subdivided into their most common presentations: invasion of wind-cold into Taiyang, Shaoyang or Yangming, or invasion of toxic heat.

Invasion of wind-cold into Taiyang

The signs and symptoms of wind-cold invasion include chills, fever, headache, muscle pain, joint pain, neck pain, slight cough and other symptoms related to the Lung including discomfort or pain in the chest, shortness of breath and difficulty breathing, a tongue with a thin white coating and a tight pulse. These symptoms result from the invasion of wind-cold into the superficial layer of the body where there is a fight between zheng (upright) qi and xie (pernicious) qi, and the wei (defensive) qi is obstructed. In most cases, the wei qi is strong enough to dispel the wind-cold

completely. However, if the wei qi is insufficient or not sufficiently supported by other aspects of physiology such as yuan (original) qi or ying (nutritive) qi, or if there is excess in the body obstructing the function of the zangfu organs, the wind-cold invasion may enter more deeply, resulting in more severe consequences.

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Invasion of wind-cold into Shaoyang

Pathogenic invasion of the shaoyang channel presents with symptoms of alternating chills and fever, headache, dizziness, tinnitus, nausea, bitter taste, poor appetite, loose stool, a thin white tongue coating and a wiry pulse. The treatment method is to harmonise Shaoyang and regulate the Gall Bladder.

Following an external invasion all symptoms should disappear, indicating that the invading pathogen has been cleared ...

Invasion of wind-cold into Yangming

When the pathogenic invasion affects the Yangming channel, it quickly transforms into heat, with symptoms of high fever, profuse sweating, thirst, restlessness, headache, red face, red tongue and a big pulse. At this point the pattern is still at the Yangming channel level, and has not reached the interior fu organ.

Invasion of toxic heat

When the pathogenic factor invades the Taiyang, Shaoyang or Yangming channels, it usually causes general symptoms - pain at the injection site is not a major complaint. However, in the pattern of toxic heat, pain, redness, heat and swelling at the injection site is often the main symptom, along with high fever, headache, thirst, a red tongue with a yellow and dry coating, and a superficial and rapid pulse.

Chronic illness and weak constitution

When the body is healthy, the zangfu organs, qi, blood, yin and yang exist in a dynamic balance. In such a person, a vaccine is unlikely to lead to severe reactions or long-term illness. Pre-existing chronic illness and/or constitutional imbalances make people more prone to adverse reactions to vaccines. These pre-existing conditions include chronic lung disease, heart disease, diabetes, liver disease, HIV and obesity.¹⁸ Constitutional imbalance can involve excess or deficiency patterns, or a mixture of both. Research has shown that both the Pfizer and Moderna vaccines have good results in people with pre-existing health conditions.¹⁹

In TCM it is emphasised that following an external invasion all symptoms should disappear completely, indicating that the invading pathogen has been cleared. Any pathogens remaining in the body can bring about long-term illness. In some cases, severe consequences can occur. For example, the MHRA in the UK has undertaken a thorough review into reports of an extremely rare type of

blood clot in the brain that occurs together with low levels of platelets following vaccination with the AstraZeneca vaccine. This ongoing scientific review has concluded that the evidence of a link with the AstraZeneca vaccine is likely.²⁰ Other possible severe reactions include anaphylaxis and death. Norwegian health officials say 23 deaths among the frail and elderly were associated with COVID-19 vaccinations.²¹ Note that these life-threatening

situations would involve much more complicated pathology than the patterns presented in this article.

TCM management

Invasion of wind-cold into Taiyang

Principles of treatment: Dispel wind-cold and relieve the exterior.

Herbal formula: *Jing Fang Bai Du San* (Schizonepeta and Saposhnikovia Powder to Overcome Pathogenic Influences).²²

Jing Jie (Schizonepeta Herba) 10g
Fang Feng (Saposhnikovia Radix) 10g
Qiang Huo (Notopterygium Rhizoma seu Radix) 10g
Gao Ben (Ligustici Rhizoma) 10g
Bai Zhi (Angelicae dahuricae Radix) 10g
Dang Gui (Angelicae sinensis Radix) 10g
Chuan Xiong (Chuanxiong Rhizoma) 10g
Zhi Ke (Aurantii Fructus) 5g
Xing Ren (Armeniacae Semen) 10g
Zhi Gan Cao (Glycyrrhizae Radix preparata) 3g

- Jing Jie and Fang Feng dispel wind-cold and relieve the exterior symptoms.
- Qiang Huo, Gao Ben and Bai Zhi dispel wind-cold and relieve joint and muscle pain.
- Dang Gui and Chuan Xiong promote circulation of qi and blood and support zheng qi to eliminate the pathogenic factor.
- Zhi Ke and Xing Ren regulate qi in the Lung.
- Zhi Gan Cao harmonises the prescription.

Modifications

- In case of severe headache, add Man Jing Zi (Viticis Fructus) 10g.
- In case of severe muscle pain, add Ji Xue Teng (Spatholobi Caulis) 10g to harmonise the collaterals.

- If the patient reports severe muscle or joint pain with cold sensation, stiffness and difficult movement, this indicates invasion of wind-cold mixed with damp leading to bi (impediment) syndrome; in such cases *Juan Bi Tang* (Remove Painful Obstruction Decoction) should be considered.
- In case of severe aversion to cold, add Gui Zhi (Cinnamomi Ramulus) 10g and Zi Su Ye (Perillae Folium) 10g to dispel external cold.

Acupuncture

- Waiguan SJ-5, Lieque LU-7 and Fengchi GB-20 with reducing technique to relieve the exterior and dispel pathogenic factors.
- Moxibustion at Hegu LI-4 and Lieque LU-7 with reducing technique to eliminate cold.
- Sanjian LI-3, Hegu LI-4 and Jianyu LI-15 with reducing technique to promote qi and blood circulation and harmonise the Large Intestine channel (the location of the injection site); Sanjian LI-3 is the shu-stream point and can thus treat joint pain; Jianyu LI-15 is a local point to the injection site; Hegu LI-4, the yuan-source point, dispels wind-cold and relieves pain.

Modifications

- For severe headache, add Fengfu DU-16.
- For severe muscle pain, add Feiyang BL-58, the luo-connecting point, and Jinmen BL-63, the xi-cleft point and intersecting point of the Bladder channel and the Yang Wei Mai.
- For severe joint pain with stiffness and difficult movement, add Yanglingquan GB-34, Fenglong ST-40 and Sanyinjiao SP-6 to benefit the tendons and eliminate damp.
- For severe aversion to cold, add Zusanli ST-36, LI-4 and LU-7 to warm the body and relieve cold.

Invasion of wind-cold into Shaoyang

Principles of treatment: Harmonise Shaoyang and regulate the Gall Bladder and San Jiao.

Herbal formula: *Xiao Chai Hu Tang* (Minor Bupleurum Decoction).

Chai Hu (Bupleuri Radix) 10g
Huang Qin (Scutellariae Radix) 10g
Zhi Ban Xia (Pinelliae Rhizoma preparatum) 10g
Zhi Zi (Gardeniae Jasminoidis Fructus) 10g
Ren Shen (Ginseng Radix) 5g
Sheng Jiang (Zingiberis Rhizoma recens) 5g
Da Zao (Jujubae Fructus) 5g
Zhi Gan Cao (Glycyrrhizae Radix Preparata) 3g

- Chai Hu and Huang Qin harmonise the Shaoyang channel, regulate the San Jiao and eliminate pathogenic factors.
- Zhi Zi clears heat in the Shaoyang channel.
- Zhi Ban Xia and Sheng Jiang harmonise the Stomach and descend qi to relieve nausea and vomiting.
- Ren Shen, Da Zao and Zhi Gan Cao support the zheng qi and benefit the body.

Modifications

- For severe headache or eye pain, add Man Jing Zi (Viticis Fructus) 10g.
- For ear pain or tinnitus, add Long Dan Cao (Gentianae Radix) and Xia Ku Cao (Prunellae Spica) 10g to clear heat in the Gall Bladder channel.
- For severe dizziness, add Tian Ma (Gastrodiae Rhizoma) 10g and Bai Ji Li (Tribuli Fructus) 10g to subdue internal wind.

Acupuncture

- Waiguan SJ-5 plus Zulinqi GB-41 with even technique to harmonise the Yang Wei Mai and Shaoyang channel.
- Yangchi SJ-4, Fengchi GB-20, Jianjing GB-21, Yanglingquan GB-34 and Qiuxu GB-40 with even technique to regulate the Shaoyang channel and promote qi circulation.
- Zhongwan REN-12 and Zusanli ST-36 with even technique to harmonise the Stomach, descend qi and relieve nausea and vomiting.

Modifications

- For severe headache, add Shuaigu GB-8 and Hegu LI-4.
- For hypochondriac pain or distention, add Taichong LIV-3 and Qimen LIV-14 to promote qi circulation.
- For mood changes or depression add Neiguan P-6 and Shenmen HT-7 to regulate the emotions and calm the shen.

Invasion of wind-cold into Yangming

Principles of treatment: Clear heat in the Yangming channel and reduce fever.

Herbal formula: *Bai Hu Tang* (White Tiger Decoction)

Sheng Shi Gao (Gypsum Fibrosum) 20g
Zhi Mu (Anemarrhenae Rhizoma) 10g
Geng Mi (Oryzae Sativae) 10g
Zhi Zi (Gardeniae Fructus) 10g
Huang Lian (Coptidis Rhizoma) 5g
Zhi Gan Cao (Glycyrrhizae Radix preparata) 3g

- Sheng Shi Gao strongly clears heat in the Yangming channel and reduces fever.

- Zhi Mu assists Sheng Shi Gao to clear heat and benefits body fluids to relieve thirst.
- Huang Lian and Zhi Zi strengthen the effect of clearing heat in the Yangming channel and reduce fever.
- Geng Mi protects the Stomach from the bitter herbs.
- Zhi Gan Cao harmonises all the herbs in the prescription.

Modifications

- For severe headache, add Bai Zhi (*Angelicae dahuricae Radix*) 10g and Man Jing Zi (*Vitidis Fructus*) 10g.
- In case of severe thirst, add Tian Hua Fen (*Trichosanthis Radix*) 10g to benefit the body fluids.
- For severe restlessness due to fever, add Dan Zhu Ye (*Herba Lophatheri Gracilis*) 10g.

Acupuncture

- Dazhui DU-14, the meeting point of all the yang channels, together with Erjian LI-2, the ying-spring point, Hegu LI-4, the yuan-source point, and Quchi LI-11, the he-sea point of the Large Intestine channel clear heat and reduce fever.
- Neiting ST-44, the ying-spring point of the Stomach channel, clears heat from the Yangming channel, reduces fever and relieves thirst.

Modifications

- In case of severe headache, add Fengchi GB-20.
- In case of severe thirst, add Sanyinjiao SP-6, the intersecting point of the three yin channels of the leg, to benefit body fluids.
- In case of severe restlessness, add Shaohai HE-3, the he-sea and water point of the Heart channel, to clear heat.
- In case of difficult defecation, add Tianshu ST-25, the front-mu point of the Large Intestine, to regulate the Large Intestine.

Invasion of toxic heat

Principles of treatment: Clear heat, remove toxin, reduce swelling and stop pain.

Herbal formula: *Wu Wei Xiao Du Yin* (Five-Ingredient Drink to Eliminate Toxin)²³

Jin Yin Hua (*Lonicerae Flos*) 10g
Ye Ju Hua (*Chrysanthemi indicis Flos*) 10g
Pu Gong Ying (*Taraxaci Herba*) 10g
Lian Qiao (*Forsythiae Fructus*) 10g
Zi Bei Tian Kui (*Begoniae Herba*) 10g
Zi Hua Di Ding (*Violae Herba*) 10g
Huang Lian (*Coptidis Rhizoma*) 5g
Huang Qin (*Scutellariae Radix*) 10g
Zhi Zi (*Gardeniae Fructus*) 10g
Zhi Gan Cao (*Glycyrrhizae Radix preparata*) 3g

- Jin Yin Hua, Ye Ju Hua, Pu Gong Ying, Lian Qiao, Zi Bei Tian Kui and Zi Hua Di Ding clear heat, remove toxin and reduce swelling.
- Huang Lian and Huang Qin clear heat, remove toxin and prevent invasion of toxic heat further into the body.
- Zhi Zi clears heat in the San Jiao.
- Zhi Gan Cao harmonises the prescription.

Modifications

- In case of high fever with redness of the face and thirst, add Shi Gao (*Gypsum Fibrosum*) 20g and Zhi Mu (*Anemarrhenae Rhizoma*) 10g to clear heat and reduce fever.
- In case of severe headache, add Bai Zhi (*Angelicae dahuricae Radix*) 10g.
- In case of seizures, add Gou Teng (*Uncariae Ramulus cum Uncis*) 10g and Jiang Can (*Bombyx Batryticatus*) 10g to arrest internal wind.
- In case of severe palpitations, add Dan Shen (*Salviae Miltiorrhizae Radix*) 10g to clear heat in the Heart and calm the shen.

Acupuncture

- Erjian LI-2, the ying-spring point, Hegu LI-4, the yuan-source point and Quchi LI-11, the he-sea point of the Large Intestine channel, clear heat, remove toxin and reduce swelling.
- Shaohai HE-3, the he-sea and water point of the Heart channel, Sanyinjiao SP-6, the crossing point of the three yin channels of the leg, and Xuehai SP-10 combine to cool the blood and relieve pain and swelling at the injection site.
- Dazhui DU-14, the meeting point of all the yang channels, reduces fever and relieves headache.

Modifications

- In case of high fever with redness of the face and thirst, add Neiting ST-44, the ying-spring point of the Stomach channel, to clear heat from the Yangming channel and reduce fever.
- For severe headache, add Fengchi GB-20.
- In case of severe generalised muscle pain, add Feiyang BL-58 and Jinmen BL-63 to harmonise the Taiyang collaterals and relieve muscle pain.
- In case of seizure, add Yanglingquan GB-34 and Taichong LIV-3 to arrest internal wind.
- In case of severe palpitations, add Shaofu HE-8, the ying-spring point of the Heart channel, to clear heat and calm the shen.

Patients with chronic illness and/or weak constitution

When COVID-19 vaccines are given to those with chronic illness or constitutional weakness, especially the elderly or patients with autoimmune disease such as lupus, their bodies may be unable to deal with the external pathogenic invasion, leading to latent pathogens obstructing their qi and blood circulation. In these patients the principles of treatment are to eliminate excess, tonify deficiency, harmonise qi and blood, and benefit yin and yang. Ideally patients with pre-existing illness or constitutional weakness should carefully attend to their physical wellbeing with TCM treatment for two months before and after vaccination. In this way severe reactions can be prevented.

Herbal treatment

For patients presenting with excess patterns, the herbal formula *Yue Ju Wan* (Escape Restraint Pill) is recommended. *Yue Ju Wan* consists of Xiang Fu (Cyperus Rhizoma), Chuan Xiong (Chuanxiong Rhizoma), Cang Zhu (Atractylodes Rhizoma), Shen Qu (Massa medicata fermentata) and Zhi Zi (Gardenia Fructus). These herbs combine to eliminate excess of qi, blood, fire and phlegm. This formula can be used to treat patients with pre-existing illness who usually suffer from stagnation of these pathogenic factors and vital substances. As this single foundation formula is not sufficient to deal with all possible cases of excess, modifications should be made accordingly. For instance, if there is mainly stagnation of qi, the addition of herbs such as Qing Pi (Citrus reticulatae viride Pericarpium), Chen Pi (Citrus reticulatae Pericarpium) and Zhi Shi (Aurantii Fructus immaturus) should be considered. Depending upon the location of the qi stagnation, herbs that enter the appropriate organs should be added.

For patients presenting with deficiency patterns the formulas *Si Jun Zi Tang* (Four Gentlemen Decoction) and *Liu Wei Di Huang Wan* (Six-Ingredient Pill with Rehmannia) can be considered. Although these formulas are used to strengthen and build up the physical condition, they are insufficient to cover all instances of weak constitution. They can therefore be used as a foundation with appropriate modifications made to tonify qi, blood, yin and yang as appropriate. Attention should be paid to identifying the relevant organs in order to alleviate weakness efficiently.

Acupuncture treatment

For excess patterns, the following acupuncture points should be considered, with reducing technique:

Hegu LI-4
Neiguan P-6
Fengchi GB-20
Yanglingquan GB-34
Gongsun SP-4
Sanyinjiao SP-6
Yinlingquan SP-9
Fenglong ST-40
Taichong LIV-3
Zhongwan REN-12

These points regulate qi and blood and eliminate excess to remove the blockage in the channels and zang-fu organs. Combination of herbs and acupuncture can bring forth faster and more reliable therapeutic benefits.

For deficiency patterns, the following points can be used to strengthen qi, blood, yin and yang, with reinforcing technique.

Zusanli ST-36
Sanyinjiao SP-6
Taixi KID-3
Guanyuan REN-4
Ganshu BL-18
Pishu BL-20
Shenshu BL-23

Conclusion

Given that COVID-19 can kill or incapacitate people, an effective vaccine is vital for public health. However, vaccines can cause side-effects. When these side-effects are minor, they can be left untreated; however, when they are more severe they should be treated immediately, appropriately and effectively. Treatment with acupuncture and Chinese herbal medicine can regulate the channels and zang-fu organs to promote physiological harmony. Vaccine side-effects can start with minor symptoms but develop into more severe disease. Because of this, proper clinical management is essential, especially for those with underlying chronic illness or constitutional weakness, as well as anyone who reports severe side-effects after vaccination. ☞

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deal with invasion of wind-cold, such as *Ma Huang Tang* (Ephedra Decoction), *Gui Zhi Tang* (Cinnamon Twig Decoction) and *Qiang Huo Sheng Shi Tang* (Notoptergium Decoction to Overcome Dampness). *Ma Huang Tang* is suitable to treat severe symptoms of wind-cold invasion following vaccination, in which there is no sweating, with obvious aversion to cold, muscle pain, headache and joint pain, a thin and white coating and a tight pulse. *Qiang Huo Sheng Shi Tang* is used when there is severe sensation of heaviness with pain in the head, muscles and joints, a white and greasy tongue coating and a slippery pulse.

23. A formula like *Yin Qiao San* (Honeysuckle and Forsythia Powder) could also be considered; however, this is better suited to relieve wind-heat affecting the throat and Lung, and its ability to remove the toxic heat produced by the vaccine is more limited than that of *Wei Xiao Du Yin*.



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