

Adhesive Capsulitis at the Time of Menopause: Approach to Treatment with Chinese Medicine

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Abstract

This article presents a clinical approach to the treatment of adhesive capsulitis (frozen shoulder) at the time of menopause. It explores the physiology of menopause and the pathophysiology of adhesive capsulitis from both the biomedical and Chinese medical perspectives and provides guidelines for treatment based on a literature review and the author's clinical experience. Two case studies are included to illustrate the theory.

Introduction

An estimated 25 million women pass through menopause every year (Peng et al., 2014). Menopause - which occurs during midlife when a woman's menstruation ceases - can be a period of increasing disease. For example, there has been an observed clinical increase in adhesive capsulitis (AC) at this point in a woman's life (Çelik & Kaya Mutlu, 2016). This paper contains a brief explanation of menopause-related AC from the perspectives of both orthodox medicine and Chinese medicine, and includes discussion of pathogenesis, diagnosis and approaches to treatment. Two case studies are included to illustrate the application of the theory.

Menopause

Menopause marks the end of a woman's reproductive life and typically happens between 45 and 55 years of age, with the average onset at 50 years (Chen et al., 2010). The word 'menopause' refers to the last period a woman experiences; when the period has stopped for 12 months the woman becomes 'post-menopausal' (AMS, 2017). Prior to menopause, more than 90 per cent of the oestrogen in a woman's body is made by the ovaries, although other organs (including the adrenal glands, hepatic and renal systems) also contribute small amounts (Scheid et al., 2010). After ovulation stops the production of oestrogen and progesterone in a woman's body drops (AMS, 2017).

The prevalence of menopausal symptoms varies from country to country; according to large epidemiological studies, 74 per cent of women in Europe, 36 to 50 per cent of women in North America, 45 to 69 per cent of women in Latin America and

22 to 63 per cent of women in Asia experience such symptoms (Palacios et al., 2010). The symptoms associated with the menopausal transition include hot flushes, vaginal atrophy, fatigue, insomnia, depression, headache, aches and stiffness of the joints, backache, diarrhoea and constipation (AMS, 2017; Scheid et al., 2010). Some women experience unwanted hair growth, thinning of scalp and pubic hair, increased skin dryness, thinning, wrinkling and / or discolouration of the skin, vaginal dryness, loss of libido and changes in urinary frequency (AMS, 2017). Symptom severity varies, with around 60 per cent of women having mild symptoms for four to eight years, 20 per cent of women having no symptoms at all and another 20 per cent severely affected, with symptoms continuing into their sixties or later (Col et al., 2009). Surveys of around 300 women aged 45 to 55 years across four different countries (US, Lebanon, Morocco, Spain) found that hot flushes were the most commonly reported symptom, occurring in just under half of respondents (Palacios et al., 2010). In a Danish study of perimenopausal women, almost all subjects reported hot flushes (87.2 per cent), but few (13.8 per cent) felt particularly bothered by them (Alraek & Malterud, 2009). It was found that the country of residence influenced which symptoms were reported and some symptoms were additionally associated with smoking, schooling, employment and age (Palacios et al., 2010). In Asian cultures (Japan, Singapore, Hong Kong, Taiwan and Malaysia), shoulder stiffness and depression were primary complaints rather than night sweats or insomnia (Scheid, 2007). The cultural differences associated with the experience of menopause are not well

understood, although it has been argued that the social standing of older women influences how they embody ageing: '[R]esults of ... [cross-cultural comparative] studies called into question the notion that menopause everywhere would be accompanied by a similar burden of symptoms and underscored the social construction of changes that were thought to be directly determined by biological factors' (Obermeyer et al., 2007).

The theory that menopausal joint problems are due to oestrogen depletion is supported by research in which aromatase inhibitors (AIs - which block the production of oestrogen) given to women with breast cancer causes joint pain or stiffness as a side effect in 40 per cent of patients (Crew et al., 2007). In contrast, in a study by the Australian Women's Health Initiative, postmenopausal women who took oestrogen supplementation reported less joint pain and swelling than those who did not. Various animal and in vitro studies suggest that oestrogen may play a role in the maintenance and health of cartilage and thus the development of joint disease (Crew et al., 2007). Although discussion around changes to collagen in relation to menopause (see below) tends to focus its role in skin changes, collagen also makes up a significant amount of the structure of tendons, ligaments and fascia, all of which relate to the health of the joints (Marcus, 2004). In addition, a comprehensive review of the literature (Hassan et al., 2014) found it highly suggestive that ovarian hormones play an active role in modulating chronic non-cancer pain conditions and there are studies that suggest that oestrogen and progesterone could be used to ameliorate conditions such as rheumatoid arthritis and multiple sclerosis (Hughes & Choubey, 2014; Voskuhl, 2015).

Menopause and Chinese medicine

Menopausal syndrome was not considered a disease in Chinese medicine before the 1950s. The first mention of menopause in Chinese medicine literature was in 1964 (Scheid, 2008). Typically, Chinese textbooks define Kidney deficiency (shenxu 腎虛) to be at the root of menopausal problems, and this has been the most common diagnostic category used in mainland Chinese medical journals since 1979 (Scheid, 2008). This is based on the traditional theory of the seven year cycles of jing (essence) that suggests that at the time of menopause a woman's Kidney jing is in heavy decline (mirroring the decline in oestrogen). After teaching for ten years in four different Chinese medicine colleges in New Zealand and Australia, the authors have found the typical course content in these institutions reflects the content of standardised TCM texts.

Prior to the impact of the biomedical understanding of menopause as being due to oestrogen deficiency, Chinese medicine diagnosis of menopause-related symptoms referred more commonly to disharmony of the Chong and Ren Mai (Penetrating and Conception Vessels - see Scheid, 2008). In fact, Scheid (2008) identifies that even Zeng

Jingguang, the TCM gynaecologist who authored the 'modern' diagnosis of Kidney deficiency for menopausal syndrome, treated it as a Chong/Ren disorder in her own clinical practice. Physicians in between the Song and Ming dynasty rarely mentioned the importance of the Kidneys when treating women (Scheid, 2008), although this may have been influenced by the life expectancy of women at that time (Zhang [1991] reports that from the Song to the Qing dynasties, the age of marriage was set at 16 for men and 14 for women and life expectancy ranged from 22 to 35).

Postmenopausal women who took oestrogen supplementation reported less joint pain and swelling than those who did not.

Adhesive capsulitis

Adhesive capsulitis was first described by Duplay in 1872 as 'humeroscapular periarthritis' (Hughes, 2000). Hughes (2000) describes it as 'a condition resulting in limitation of glenohumeral range of motion in both active and passive motion, which is periarticular (around the joint), not intra-articular in origin.' Neviaser (1945) first coined the term 'adhesive capsulitis' (AC) based on observation of live surgery and cadavers, noting that the 'capsule was contracted and closely adherent to the humeral head at its anterior inferior portion ... [with] a conspicuous absence of synovial fluid' (Hughes, 2000).

Two to five per cent of the population are thought to suffer from AC and it is more prevalent in those 40 to 65 years old, in those that have had a previous episode of AC in the contralateral arm, and has a slightly higher incidence in females (Çelik & Kaya Mutlu, 2016). It can be either primary (idiopathic) or secondary (associated with trauma, cardiovascular disease, hemiparesis or diabetes) (Guyver et al., 2014). Three stages of AC are described: the painful stage (lasting two to nine months), the stiff or 'frozen' stage (lasting four to twelve months), and the recovery or 'thawing' stage (lasting 12 to 42 months) (Guyver, 2014). Onset is characterised by glenohumeral pain and a gradual loss of active and passive movement in all planes, especially passive external rotation. There is contracture of the rotator interval, capsule and surrounding ligaments. It is considered a soft tissue rather than a bone problem. Diagnosis is through X-ray of the glenohumeral joint to exclude bony causes of pain and restricted movement.

There remains disagreement about whether the underlying pathological process of AC is inflammatory and/or fibrotic in nature (Guyver et al., 2014; Jain & Sharma, 2014; Watson et al., 2000; Xiao et al., 2017). However, it is likely that pathogenesis may be provoked by chronic inflammation in musculotendinous or synovial

tissue (Çelik & Kaya Mutlu, 2016).

As discussed above, during menopause, oestrogen and progesterone decline, which can lead to pathological joint changes in later life. Collagen production makes up a significant amount of the structure of tendons, ligaments and fascia (Marcus, 2004). Evidence that the increased vulnerability and reduced ability to repair of these tissues post-menopausally supports treatment approaches that address both the menopausal patient's systemic state as well as the injured shoulder.

Adhesive capsulitis and Chinese medicine

There are a variety of descriptions of shoulder problems in Chinese medicine literature that may relate to AC, including jianning (congealed shoulder), dongjiejian (adhesive capsulitis), loujianfeng (leaky shoulder wind) and wushijian (fifty [year] shoulder) (Flaws & Sionneau, 2005). The Chinese medicine theory of AC during menopause is explored below according to the affected organs and channels as well as bi zheng (painful obstruction syndrome - often termed simply 'bi syndrome') theory.

Kidney

When looking at AC during menopause, we should first consider the natural decline of jing (essence) according to the traditional theory of the seven year cycles, as well as the role of the Kidney in governing fluids (jin ye). Deficiency of Kidney yin entails drying of the body fluids. Some common menopausal symptoms are reflective of such drying, such as skin and vaginal changes, and this dryness can also affect the synovial fluid in joints - thus contributing to post-menopausal AC. Neviaser's exploratory work with patients with AC found 'there was a conspicuous absence of synovial fluid' (cited in Hughes, 2000). On the other hand, Kidney yang is involved in the distribution of fluids and its deficiency can lead to damp-phlegm accumulation in the joints.

Deficiency of Liver blood and/or Liver yin will cause dry, contracted, inflexible and painful tendons.

Liver

According to Chinese medicine theory, the fascia, tendons, ligaments, subcutaneous tissue, tendino-muscular junction, joint capsule and cartilage (Marcus, 2004) all fall into the category of 'sinews'. The sinews are the tissue associated with the Liver. Therefore disharmony of the Liver is associated with soft tissue changes that can contribute to AC. The Liver is also associated with the blood. Deficiency of Liver blood and/or Liver yin will cause dry, contracted, inflexible and painful tendons. In

addition, emotional difficulties and changes at the time of menopause can affect the Liver causing constraint (yuzheng - see Scheid et al., 2010). In fact, the main formula prescribed for menopause in Asian countries is *Jiawei Xiaoyao San* (Kami-shoyo-san in Japanese or Rambling Powder - a formula that regulates Liver qi) and in these same countries the primary menopausal complaints are shoulder stiffness and depression (Chen et al., 2010). Blood stasis characterised by fixed, sharp pain can arise due to qi stagnation or deficiency, blood deficiency, cold and/or trauma disrupting the channels (Flaws & Sionneau, 2005).

Spleen

The Spleen governs the muscles and flesh, which when weak can lead to pathological movement patterns that increase the strain on ligaments, tendons and joints, thus compromising the integrity of the shoulder girdle. Spleen qi deficiency can lead to the accumulation of dampness which settles in the joints causing obstruction to the flow of qi and blood (Maclean & Lyttleton, 2010). Dampness and phlegm limit the movement of the joint by obstructing the sinews and muscles and cause swelling. Legge (2011) describes the TCM focus of treatment for AC in terms of resolving dampness in the joint and mobilisation. While damp-cold is considered the most common pathogen in AC, Marcus (2004) suggests damp-heat is also very common. Over time phlegm will tend to combine with blood stasis to exacerbate the degenerative weakness, stiffness and pain (Maclean & Lyttleton, 2010).

Heart

Menopause is a time of great change, and combined with the other vicissitudes of life can cause great emotional stress. In health, the fire of the Heart should descend to warm the water of the Kidneys, and the water of the Kidneys should rise to cool the Heart. Emotional disharmony around menopause often involves excess in the upper jiao and deficiency in the lower jiao. Many menopausal women present with full upper jiao pulses and virtually absent lower jiao pulses accompanied by symptoms of anxiety, hot flushes, insomnia, headaches - and AC. Tapper & Stub (2011) write of successful treatment of AC due to trauma that utilised acupuncture points on the upper back. Legge (2011) suggests that the yang channels of the upper extremity that traverse the shoulder can present with pathology due to imbalance in their corresponding yin organ partners, namely the Heart, Lung and Pericardium.

Chong Mai

As detailed above, prior to 1964, menopausal changes were thought to be due to the Ren and Chong Mai. The Chong Mai, however, has a strong connection to the Stomach (Scheid, 2008). External heat can enter through the Yangming (Stomach and Large Intestine), causing

heat to penetrate into the ying (nutritive) level and even further to the xue (blood) level (Qian, 2006). The Large Intestine channel passes through the shoulder, which is often treated via its paired Stomach channel (i.e. Tiaokou ST-38). This links the external shoulder presentation of AC with an internal menopausal pattern. Patients with a Yangming/Chong Mai presentation respond well to treatment of the Chong Mai, to restore its downward movement which has not functioned rhythmically since the cessation of their periods.

Bi syndrome

Chinese medicine describes disease of the bones and joints in terms of bi syndrome. Bi syndrome involves external invasion of wind, damp, cold or heat into the body, which blocks qi and blood circulation and causes pain and stiffness of the joints (Legge, 2004). This situation can be caused by an external pathogen penetrating to the interior and/or an interior deficiency enabling an external pathogen to penetrate. The combination of interior and exterior factors typically leads to a clinical presentation involving a mixed pattern of deficiency and excess (Marcus, 2004; Maclean & Lyttleton, 2010). The depletions of qi and blood, yin and yang that frequently arise during menopause foster vulnerability for the occurrence of AC. Women who have reached a mature age often present with deficiency patterns, as by this time of life they are likely to have experienced injuries and/or surgeries, been exposed to climatic extremes, become exhausted and frustrated by life's vicissitudes, and may be poorly nourished.

Research

In order to comprehensively research the TCM treatment of AC and menopausal syndrome, searches were conducted in the following databases: CINAHL, Cochrane library, Medline, PubMed, ScienceDirect and Google Scholar. Individual Chinese medicine journals were also searched. Search terms used included acupuncture, traditional Chinese medicine, Chinese herbal medicine, adhesive capsulitis, frozen shoulder, menopause and menopausal syndrome, as well as specific symptoms (night sweats and insomnia).

From this review of the current TCM menopause research, the most common diagnoses were Kidney yin deficiency, yang deficiency or both (Baccetti et al., 2014; Eisenhardt & Fleckenstein, 2016; Fu et al., 2016; Hammeset al., 2014; Kwee et al., 2007; Peng et al., 2014; Tian & Zhang, 2008). Mention is also made of Liver qi stagnation (Baccetti et al., 2014; Peng et al., 2014), phlegm (Baccetti et al., 2014; Kwee et al., 2007) and Heart and Kidney disharmony (Baccetti et al., 2014). Liver yang rising and Stomach and Spleen deficiency were mentioned once (Kwee et al., 2007), whilst Peng (2014) based treatment on a combined diagnosis of Liver and Kidney yin deficiency. Most research into the use of Chinese herbal medicine

(CHM) for menopausal symptoms focused on tonification of Kidney yin and/or yang (Dong et al., 2014; G.-W. Li et al., 2014; Su et al., 2013; Wong & Zhang, 2013; Zhong et al., 2013), although there were exceptions (Hidaka et al., 2013; Li et al., 2013; Wang et al., 2013). A recent analysis of the use of CHM found that a simplistic focus on the Kidney was uncommon in the clinical practice of experienced herbalists (Scheid et al., 2017).

Diagnosis and treatment

In this section we make suggestions for the treatment of post-menopausal AC based on the research evidence above combined with our clinical experience.

Palpate for dryness/moisture to check whether the blood and fluids are nourishing the shoulder.

Diagnosis

Palpation of the shoulder

Thorough palpation of the shoulder is critical component of a clinician's assessment prior to developing a treatment strategy. Palpating the 'healthy' shoulder as a comparison to the affected shoulder is important. First assess the shoulder visually; visual inspection can show depressions that indicate deficiency and bumps that indicate excess. Then palpate for temperature to identify cold or hot spots. A shoulder that radiates cold indicates either a wind-cold invasion or that the qi and blood are not reaching this area, in which case practitioners should look further afield for where flow is blocked. Heat is more obvious and indicates that stagnation is generating heat or inflammation is being caused by a heat invasion. Identifying the actual tissue (e.g. tendon, muscle or joint) that is inflamed will assist treatment choices. Next palpate to identify which areas are full (hard) or empty (flaccid) and thus indicate deficiency or excess. Passing the palm over the shoulder (and surrounds) without touching the skin can be a useful way of identifying gaps in qi circulation, indicated by gaps in the radiating sensation. Also palpate for dryness/moisture to check whether the blood and fluids are nourishing the shoulder. A sensation of 'sogginess' and fluid swelling or absence of moisture can guide treatment. If the shoulder is dry and lacking yin it may mean that moxa would be counterproductive. Also palpate for channel blockages to identify which channels are affected. Knowing the channels that are disordered guides the choice of distal and local points and how they are used. As well as being a major contributor to diagnosis, palpation can also act as the beginning of treatment by beginning to move stagnant qi. Information from the palpatory diagnosis should be incorporated into an overall Chinese medicine diagnosis (including pulse, tongue, consultation, and so on).

Acupuncture

Primary acupuncture points

Although there are many approaches to acupuncture treatment of AC, we include here the main points to consider in treatment:

- Tiaokou ST-38: Benefits the shoulder, expels wind-damp and alleviates pain. Needle on the affected side whilst the patient moves their shoulder. This point is especially useful if the Large Intestine channel is affected; if the San Jiao channel is primarily affected then a Gall Bladder point such as Yanglingquan GB-34 may be more effective (similarly choose a Spleen point or Bladder point if the Lung or Small Intestine channels are affected).
- Hegu LI-4: Relieves pain and promotes the smooth flow of qi, in case of pain of tendons and bones, painful bi obstruction.
- Binao LI-14: Treats pain in the upper arm.
- Shousanli LI-10: Treats pain and immobility in the arm and shoulder.
- Jianyu LI-15: Disperses wind-damp, alleviates pain, benefits the shoulder; useful if there is difficulty raising arm.
- Jugu LI-16: Benefits the shoulder especially with blood stasis. Needle oblique under the acromion.
- Waiguan SJ-5: Treats bi syndrome due to wind-cold or wind-heat.
- Jianliao SJ-14: Clears wind-damp, alleviates pain and benefits the shoulder joint.
- Houxi SI-3: Distal point for the posterior shoulder.
- Jianzhen SI-9: Benefits shoulder, expels wind.
- Naoshu SI-10: Benefits the shoulder, local point for acute pain.
- Tianzong SI-11: Pain in the scapula, combine with SI-4 Wangu for the shoulder.
- Bingfeng SI-12: Local for the shoulder and scapula.
- Jianjing GB-21: Treats stiffness in the neck and shoulders. Consider cupping this point.
- Yanglingquan GB-34: Benefits sinews and joints.
- Taichong LIV-3: Moves qi and blood; combine with LI-4 Hegu (the Four Gates) for pain.
- Dazhui DU-14: Treats 'pain of the 100 joints'; the meeting point of the yang channels.
- Geshu BL-17: Treats blood stasis anywhere in the body.
- Gaohuangshu BL-43: If the patients complains of pain around this point consider underlying deficiency and moxa the point and the local area.
- Jianqian M-UE-48: Activates qi and blood and benefits the shoulder joint.
- Huatoujiaji points: Palpate for excess and deficiency. For those that are deficient, needle superficially with reinforcing technique, for excess needle more deeply with reducing technique; consider these points to affect the associated dermatome (especially between the seventh cervical and the first thoracic vertebrae).

Master Tung points (needled contralaterally)

- 77.17 Tianhuang, 77.18 Shenguan, 77.21 Renhuang: Kidney points indicated for bone-related pain.
- 44.06 Jianzhong: Treats pain in the shoulder and arm, strengthens muscles via the Spleen.
- Dabai 22.04 & Linggu 22.05: Invigorate the Kidney and regulate the Liver; treat pain and movement disorders from malfunctioning bones, tendons and joints.
- 88.25 Zhongjiuli: Treats pain conditions together with Linggu 22.05; treats numbness and pain of the arm and hand, tendon and muscle.
- Fanhoujie: Treats shoulder pain.
- Sanchasan 22.17 (on affected side): Treats pain.

Supplementary points according to pattern

The following points should be incorporated in treatment based on pattern discrimination.

- Liver blood deficiency: Geshu BL-17, Ganshu BL-18, Pishu BL-20, Neiguan P-6, Taichong LIV-3, Ququan LIV-8
- Liver blood stasis: Geshu BL-17, Ganshu BL-18, Taichong LIV-3, Hegu LI-4, Fengchi GB-20, Fengshi GB-31
- Liver qi stagnation leading to heat: Xingjian LIV-2, Taichong LIV-3, Hegu LI-4, LI-11 Quchi, Fengchi GB-20, Xiaxi GB-43
- Liver yin deficiency with yang rising: Taichong LIV-3, Ququan LIV-8, Fengchi GB-20, Ganshu BL-18, Daling P-7, Baihui DU-20, M-HN-9 Taiyang.
- Kidney yin deficiency: Shenshu BL-23, Guanyuan REN-4, Zhaohai KID-6, Yingu KID-10
- Kidney yang deficiency: Taixi KID-3, Shenshu BL-23, Mingmen DU-4
- Kidney yin and yang deficiency: Mingmen DU-4, Guanyuan REN-4, Qihai REN-6, Zhishi BL-52
- Spleen qi deficiency: Taibai SP-3, Zusanli ST-36
- Spleen yang deficiency leading to damp: Sanyinjiao SP-6, Yinlingquan SP-9, Shuifen REN-9, Pishu BL-20, Zusanli ST-36
- Chong Mai imbalance: Gongsun SP-4, Neiguan P-6, Qixue KID-13, Guanyuan REN-4
- Heat in the Yangming: Hegu LI-4, LI-11 Quchi, bleed Shangyang LI-1, Zusanli ST-36, Tiaokou ST-38, Neiting ST-44
- Heart yin/blood deficiency: Xinshu BL-15, Geshu BL-17, Gaohuangshu BL-43, Jueque REN-14, Jiuwei REN-15
- Heart & Kidney not harmonised: Guanyuan REN-4, Jueque REN-14, Jiuwei REN-15, Xinshu BL-15, Shenshu BL-23, Shenmen HE-7, Neiguan P-6, Daling P-7, Yintang M-HN-3

Focus on specific muscles

As well as treatment to directly affect the joint, rebalancing the function of the surrounding muscles can lead to immediate

improvements in pain, even if the range of movement (ROM) of the joint improves more slowly (as is often the case with AC). Muscles can be treated with trigger/ashi points and/or motor points (the most electrically excitable area of the muscle).

- *Deltoid*: Various fibres of the deltoid can be affected in AC - palpate carefully to identify them.
- *Supraspinatus*: Check the function of this muscle by abducting the arm over 90 degrees. In most cases of AC this movement will be restricted.
- *Infraspinatus/teres minor*: These muscles lie along the trajectory of the Small Intestine channel and can cause pain in the posterior shoulder inferior to the spine of the scapula and around the posterior axillary crease.
- *Subscapularis*: Tension in this muscle anterior to the scapula limits lateral rotation; clinical experience shows that releasing the motor point at Jiquan HE-1 (if affected) can significantly improve movement in the shoulder joint. It can be needled (mindful of its location) or massaged.
- *Iliocostalis cervicis/thoracis*: The motor points of these muscles lie between the spinous processes and the medial border of the scapula.
- *Pectoralis minor/major*: Trigger points in these muscles can pull the scapula forward and adversely change the position of the shoulder.
- *Iliocostalis erector*: These muscles lie midway between the inner and outer Bladder channels at the level of Dazhu BL-11 to Geshu BL-17. Check for small hard knots which are painful on palpation. Caution is necessary when needling due to the risk of pneumothorax.
- *Rhomboid minor/major*: Use both trigger and/or motor points.

Auxiliary techniques

- The following treatment methods should also be considered, depending on the pattern and presentation:
- Threading needles along the bicipital groove with electrostimulation
- Cupping – stationary over shoulder joint or sliding around posterior shoulder girdle
- Blood-letting around the shoulder joint (with or without cupping)
- Tuina/massage – mindful of deficiency/excess nature of presentation.

Note that no matter which acumoxa technique is being employed, blood- and/or yin-deficient patients may feel worse with excessively dispersing treatments such as strong needling or cupping.

Chinese herbal treatment

The time of menopausal transition is often a complex experience for women. Herbal treatments need to address this complexity by adjusting appropriate formulae to

address both the adhesive capsulitis and the menopausal symptoms. Use specialist gynaecological texts to guide your base formula and include herbs that attend to the shoulder pain. Because external pathogenic factors can contribute to or initiate shoulder pain, these must be considered as well as the menopausal pattern. In relation to shoulder pain or immobility there are several individual herbs that can be included in a more general 'constitutional' formula. Examples of these are Qiang Huo (Rhizoma et Radix Notopterygii) when wind-cold dampness is present, combined with Fang Feng (Saposhnikovia Radix), Jiang Huang (Curcuma longae Rhizoma), Dang Gui (Angelicae sinensis Radix), Chi Shao and (Paeoniae Radix rubra). Ge Gen (Radix Puerariae) is especially good for wind-heat invasion in the upper body but can also be used for wind-cold invasion if combined with the correct herbs. Qin Jiao (Radix Gentianae) is useful for wind-dampness with a warm presentation (such as hot bi) and is also helpful for heat due to yin deficiency. Sang Zhi (Ramulus Morus) similarly targets upper body joint problems where heat is present (with spasms). In terms of representative specific formula, practitioners may wish to consider modifying *Juan Bi Tang* (Remove Painful Obstruction Decoction) for a distinct wind-damp presentation, *Huang Qi Gui Zhi Wu Wan* (Astragalus and Cinnamon Twig Five Herb Decoction) to warm interior cold and the channels, or *Shen Tong Zhu Yu Wan* (Remove Stagnant Blood from a Painful Body Pills) if blood stasis is primary.

Blood- and/or yin-deficient patients may feel worse with excessively dispersing treatments such as strong needling or cupping.

Case Studies

Case 1: Liver qi stagnation and blood deficiency

A 53 year-old woman, 'Sarah', had been diagnosed with AC in the right shoulder after ultrasound and X-ray. She had limited range of movement in her shoulder and the pain was waking her up to four times at night, with numbness and tingling in the morning. She rated the pain at six or seven on a scale of one to ten. The pain and lack of movement had become worse since she had assisted family members in moving house six months previously; three months after this she had fallen and landed by 'bracing' with her arm, thereby compounding the injury. She had no previous history of shoulder problems. She had previously been very active, regularly biking, running (marathons), going to the gym and doing pilates. She had seen a physio who taught her some stretches which she was doing sporadically.

For Sarah peri-menopause had commenced at the age of 48 when her cycle became less regular, finally stopping at 51 years old. Over the last few years her skin had become dryer

and she had experienced increased feelings of stress and irritation. She also had night sweats, which were worse when she was under stress. Her pulse was fine and her tongue was red, redder towards the tip, and the tongue coating had a yellow tinge.

Diagnosis and treatment plan

The diagnosis was Liver qi stagnation, Liver blood deficiency, qi and blood deficiency affecting the three yin channels of the arm and Kidney yin deficiency. The treatment principles were to regulate the Liver, nourish Liver blood and the sinews, tonify qi and blood, and tonify the Kidney yin.

Outcome measures were established relating to range of movement, night time waking, frequency of night sweats and daily activities of dressing and washing her hair (which she found difficult as it required lifting her arm). Sarah agreed to come for seven treatments: four over the first month, and then once a month for three months. Treatment consisted of acupuncture, moxibustion, heat lamp, cupping and tuina (massage). She was also seeing a medical herbalist at the time so no Chinese herbs were administered.

Dispersing needed to be carefully managed throughout treatment so as not to make the patient's symptoms worse.

Treatment 1

At the time of the first treatment the range of motion in her shoulder was flexion 100 degrees, extension 40 degrees, abduction 90 degrees, adduction 50 degrees and medial rotation 30 degrees. The treatment was as follows:

- prone: Shenshu BL-23, Pishu BL-20, Ganshu BL-18
- supine: Zusanli ST-36, Sanyinjiao SP-6, Taichong LIV-3, Hegu LI-4, Pianli LI-6, Quchi LI-11, Jianyu LI-15, plus three ashi points along the bicipital groove close to the Large Intestine channel in the upper shoulder.

Treatment 2

After the first treatment Sarah described her whole body as feeling less restricted and she subsequently only woke three times at night. The second treatment consisted of the supine portion of the previous treatment, with the addition of Tiaokou ST-38 and a heat lamp over the shoulder. All needles were removed at the end of the treatment, except Tiaokou ST-38 which was manipulated to elicit strong deqi while the patient moved their arm and shoulder. This produced some immediate improvement in ROM.

Treatments 3 & 4

On returning the following week the patient reported no consistent change and was again waking up around four times a night in pain. After this feedback, the third treatment

returned to focus on nourishing blood via the back-shu points above, along with Huatuoji points between the seventh cervical and the first thoracic vertebrae. Similar points were used as in the previous supine aspect of the treatment, with the inclusion of Jianliao SJ-14. In the fourth session, treatment was similar but additionally included cupping over the Large Intestine channel on the anterior shoulder, which elicited dark bruising.

Treatments 5-7

After the fourth treatment, the ROM had improved to flexion 135 degrees, extension 40 degrees (with less pain), abduction 100 degrees, adduction 50 degrees and medial rotation 45 degrees. She still had difficulty lifting her arm to dress and wash her hair. However, her sleep had improved to seven to eight hours a night and she was only waking one or two times. She still experienced night sweating, yet her skin was less dry and her shoulder tension had reduced. She reported feeling more tired post treatment, which may be expected given the strong dispersing action of the cupping. She was able to do more household activities.

Over the next two months she had two more similar treatments after which her shoulder further improved with less pain, she slept better and experienced no numbness and tingling on waking. After seven sessions, Sarah was able to wash her hair and dress herself without problem, and was feeling more optimistic and at ease. She had reduced shoulder tension, no consistent pain, nor was she waking in pain or experiencing regular night sweating. Her shoulder ROM continued to improve: flexion 180 degrees, extension 50 degrees, abduction 170 degrees, and medial rotation 45 degrees.

This case illustrates the delicate balance between nourishing, tonifying and reducing that is necessary when treating post-menopausal AC. Excessive dispersing in the second treatment aggravated the underlying deficiency and dispersing needed to be carefully managed throughout treatment so as not to make the patient's symptoms worse. To address both the AC and the menopausal symptoms, nourishing the Liver blood and Kidney, coursing the Liver and treating the shoulder directly were all essential.

Case 2

'Mary' was 50 years old when she came for treatment for her shoulder problem, which had begun while lifting weights at the gym four months previously. She reported a long history of issues with her left hand, wrist and elbow (she was left-handed). In the few months before coming for treatment, she had visited two sports physicians, one who speculated that she had a compressed nerve at C7 (without specific diagnostics but based on a history of numbness and tingling in the arm following a whiplash injury some twenty years previously), and the second who diagnosed AC via an x-ray. She was given a local cortisone injection around the acromioclavicular joint, yet there was no improvement to her pain

- hence she decided to come for acupuncture treatment.

She presented with pain throughout the whole left shoulder girdle and down the left arm into the hand, particularly the third and fourth fingers, accompanied by swelling of the arm and hand. She also reported pain in the left side of the neck. The pain level fluctuated between two and eight out of ten and was aggravated during household activities, as well deliveries, driving and computer work (she worked as a delivery driver loading orders in and out of a van as well as using a computer). She found it very difficult to brush her teeth and undo her hot water bottle. Her shoulder was worse at night and she woke with pain six or seven times a night. The ROM in her left shoulder was: flexion 90 degrees, extension 35 degrees, abduction 100 degrees, adduction 40 degrees, external rotation 50 degrees and internal rotation 45 degrees. She had a history of physical and emotional abuse as a child (with injury to her arms). Mary also reported weekly headaches on the left hand side (LHS) behind the eyes and discomfort around the occipital area and into the ear. Mary felt irritable with the headache and ear pain and said it hurt more if she was angry. Her period had stopped three years previously and she reported regular night sweats. Her pulse was wiry and her tongue was swollen and red all over especially on the sides.

Diagnosis

The initial diagnosis was Liver yin deficiency with Liver yang rising, qi and blood stagnation in the Gall Bladder channel and the yang channels of the upper extremity. The treatment plan consisted of treatment twice a week for two weeks and then once a week for a total of 17 treatments. Treatment included acupuncture, tuina and cupping.

Treatments 1-3

The first three treatments focused on quelling the rising yang to reduce the headache, earache and irritability, as these symptoms caused her significant discomfort. Points included Xingjian LIV-2, Hegu LI-4, Xingjian LIV-2, Waiguan SJ-5, Zulinqi GB-41, Tinghui GB-2, Wangu GB-12, Baihui DU-20 and M-HN-9 Taiyang. After three sessions over two weeks she was only having occasional discomfort in her head and her irritation had reduced so her pain seemed to her to be less overall.

Treatments 4-10

Her shoulder then came to the forefront of treatment, which consisted of using Huatuoji points between C7-C8-T1 (based on the referral pattern into her fingers), Hegu LI-4, Quchi LI-11, Jianyu LI-15 and Tiaokou ST-38, while continuing to course the Gall Bladder channel with Fengchi GB-20, Jianjing GB-21, Qixu GB-40 and Taichong LIV-3.

After her fifth treatment, although her headaches and ear pain had reduced considerably, her shoulder had barely changed, which meant her work was still very difficult. At this point her emotional state became more of a focus and we

discussed her history of physical and emotional abuse. Due to the lack of improvement in her shoulder and arm, I shifted the focus to the upper arm yin channels. In prone I used Feishu BL-13, Jueyinshu BL-14, Xinshu BL-15, Gaohuangshu BL-43 and Ganshu BL-18, and Zhongfu LU-1, Lieque LU-7, Taiyuan LU-9, Shenmen HE-7, Shaochong HE-9, Neiguan P-6 and Laogong P-8 when supine. This produced significant improvements in her symptoms, and therefore a further four treatments were done with this approach, resulting in a reduction in the referred pain to the fingers, no hand swelling, no night sweating, and she was now only waking two or three times at night. The shoulder pain now ranged between two and five out of ten. Her headaches were now only monthly with less pain, and she felt she was less angry and irritated. Mary was able to brush her teeth and undo her hot water bottle. She had reduced sensitivity around the elbow. The ROM in her left shoulder was now flexion 140 degrees, extension 35 degrees, abduction 100 degrees, adduction 50 degrees, external rotation 70 degrees and internal rotation 65 degrees.

Treatments 10-18

After another eight treatments Mary was 'able to do everything' i.e. putting items on shelves, brushing teeth, sweeping, etc. She could lift her arms up and behind head now and was increasing the weights she used at the gym. She no longer felt daily pain and at times there was no pain at all, which felt 'weird' to her after so long. Mary was sleeping without waking in pain, had no night sweats and her anger and irritation were reduced. She said she coped better with work stress.

This case illustrates the importance of correctly identifying the balance of deficiency and excess, root and branch when treating menopausal AC. Whenever this patient's shoulder was treated as merely a local musculoskeletal injury, she did not improve. When the focus was placed on her emotional imbalance and the underlying disharmony, her shoulder improved. This was a case of treating yin to influence yang, with her symptoms appearing yang yet manifesting from yin. Her surprise at being pain free indicated how deeply felt her emotional pain had been translated to physical pain.

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