

On Blood Deficiency

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Origin of Blood

Blood is derived mostly from the *gu qi* (food *qi*) produced by the Spleen. The Spleen sends *gu qi* upwards to the Lungs, and through the propelling action of Lung *qi*, this is sent to the Heart, where it is transformed into Blood. The Ling Shu says in chapter 18: *'The stomach is in the middle burner, it opens onto the upper burner, it receives qi, secretes the dregs, evaporates the fluids transforming them into a refined essence. This pours upwards towards the lungs and is transformed into blood.'*¹

There are two other important features in the manufacture of Blood. One is that the transformation of *gu qi* into Blood is aided by the *yuan qi*. The other is that the Kidneys store *jing* which produces marrow: this, in turn, generates bone marrow which contributes to making Blood. A doctor of the Qing dynasty, Zhang Lu, in his book *Medical Transmission of the Zhang Family* (1695), says: *'If qi is not exhausted, it returns essences to the kidneys to be transformed into jing; if jing is not depleted, it returns to the liver to be transformed into blood.'*²

From this it is evident that the Kidneys play an important role in the making of Blood, as they store *jing* and are the source of *yuan qi*. We can therefore say that Blood is generated by the interaction of the post-heaven *qi* of the Stomach and Spleen (which are the source of *gu qi*) and the pre-heaven *qi* (as the Kidneys play a role in its formation). So, to nourish Blood, we need to tonify the Spleen and Kidneys.

It seems remarkable that the Chinese account of the blood-forming function of bone marrow, so similar to that given by Western physiology, was formulated during the Qing dynasty before the introduction of Western medicine into China. Lin Pei Qin, a doctor of the Qing dynasty, formulated the theory that 'liver and kidneys have the same source' and that Blood is transformed from Kidney *jing*. For this reason, and also because *tian gui* derives from the Kidneys, in women, when I nourish Blood I often tonify the Kidneys (as well as Liver).

Blood Deficiency

A deficiency of Blood is one of the most common patterns seen in women: it has many different manifestations and is often at the root of many other patterns. When we say 'Blood deficiency' in most cases we mean 'Liver-Blood deficiency' because the Liver houses Blood. However, the Heart governs Blood and Heart-Blood deficiency is also common. Also, the Spleen makes *gu qi* which is the origin of Blood and so a deficiency of the Spleen may also lead to Blood deficiency.

Liver Blood deficiency

To understand the symptoms and signs of Liver-Blood deficiency we must recall the functions of Liver-Blood:

- It nourishes the sinews
- It nourishes the hair
- It nourishes the eyes
- It nourishes the nails
- It houses the *hun*
- It stores Blood and is related to the uterus

Therefore, the symptoms and signs of Liver-Blood deficiency may be:

- Cramps, numbness
- Dry hair
- Blurred vision, floaters
- Dry and/or brittle nails
- Insomnia and excessive dreaming (when Liver-Blood fails to house the *hun* at night)
- Scanty periods or no periods

Heart Blood deficiency

The symptoms and signs of Heart-Blood deficiency may be:

- Palpitations
- Insomnia
- Mild anxiety
- Poor memory
- Dizziness
- Dull-pale complexion

Spleen Blood deficiency

The symptoms and signs of Spleen Blood deficiency may be:

- Poor appetite
- Tiredness
- Dull-pale complexion
- Weakness of the limbs
- Loose stools
- Thin body
- Pale lips

Please note that the Blood deficiency originating from the Spleen is 'ordinary' Blood and not *tian gui* that is the source of menstrual blood. In gynaecological problems from Blood deficiency one therefore tonifies usually Liver and Kidneys. However, I often also tonify the Spleen as it will indirectly also help *tian gui*. For further explanation of the difference between so-called 'ordinary Blood' and *tian gui*, see below under 'Blood and *tian gui*'.

Tongue and Pulse in Blood Deficiency

The tongue in Blood deficiency is pale and slightly dry. It should be also thin: I say it 'should be' because it seldom is. That is not because Blood deficiency is rare but because dampness and phlegm tend to make the tongue swollen. Many women who have Blood deficiency also have dampness or phlegm and the tongue is not thin because of the swelling from dampness or phlegm. In a statistic of my database of my UK patients, only 1.9% had a thin tongue, as opposed to 38% who had a swollen tongue. The pulse in Blood deficiency is choppy or fine (also called thin or thready).

Other Symptoms and Signs of Blood Deficiency

Interestingly, some Chinese dictionaries of Chinese medicine list other, less common symptoms and signs of Blood deficiency. For example, the Concise Dictionary of Chinese Medicine lists the following pathological conditions of Blood deficiency:

- Blood exhaustion (*xue lao*)
- Collapse of Blood
- Blood bi syndrome (from Blood deficiency)
- Blood empty Heat
- Blood deficiency atrophy syndrome
- Blood deficiency infertility
- Blood deficiency palpitations
- Blood deficiency giving rise to Wind
- Blood deficiency headache
- Blood deficiency fever
- Blood deficiency tinnitus
- Blood deficiency sweating
- Blood deficiency miscarriage
- Blood deficiency abdominal pain
- Blood deficiency backache.⁴

Blood and *tian gui*

In the context of gynaecology, it is important to distinguish between Blood and *tian gui*. '*Tian gui*' is mentioned in the very

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first chapter of the Su Wen where it says that, at 14, the *ren mai* is open, the *chong mai* is flourishing, the *tian gui* arrives and the girl can conceive. All Chinese doctors stressed that *tian gui* is 'not Blood' but 'Water' and that it derives from the kidneys. '*Tian*' means 'heaven' or 'heavenly' and '*gui*' is the 10th stem that pertains to 'Water'. The connection between this stem and 'Water' is not coincidental and it refers to the fact that menstrual blood is *tian gui* and that it derives from the kidneys. Menstrual blood is called '*tian gui*' because it represents the descending of 'heavenly *gui* materializing into Water': as mentioned above, the 10th stem *gui* pertains to 'Water'.

*The Great Treatise of Beneficial Formulae for Women (1237) explains: 'When the girl is 14 the tian gui arrives, the ren mai is open, the chong mai is flourishing and the period arrives. "Heavenly" indicates the descending of the "true qi of heaven"; "gui" indicates water (as this stem pertains to water): (menstrual blood is therefore) like heavenly clouds generating water.'*⁵

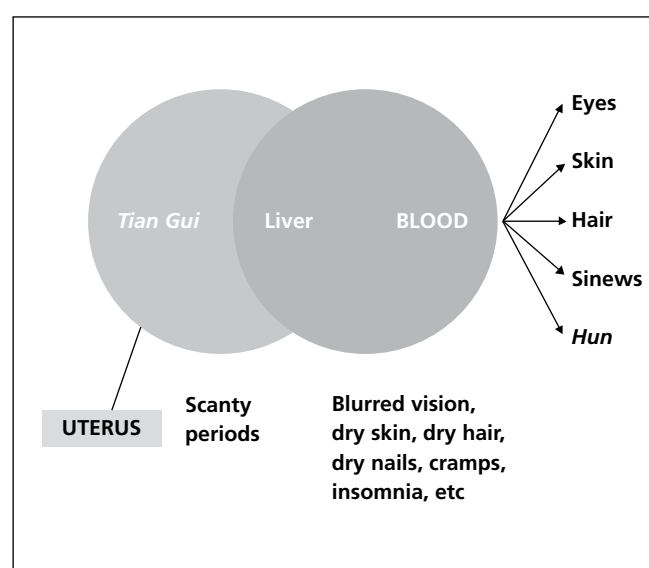
Tang Zong Hai in his *Discussion of Blood Syndromes (1885) says: 'Fluids transformed by qi turn red and form blood which, following the "directing and penetrating vessels", joins the "tian gui water" below in both men and women. Men pertain to qi and, in them, blood is transformed from water to make sperm; women pertain to blood and, in them, blood is transformed from water to make menstrual blood.'*⁶

The famous Qing dynasty gynaecologist Fu Qing Zhu (1607-1684) stressed forcefully that menstrual blood is not 'Blood' but 'Water'. Fu Qing Zhu holds that menstrual blood is not Blood but *tian gui* which originates from the kidneys. He says it is formed from Kidney *yin* but with the participation of Heart *yang* and that despite being blood-red in colour it is not Blood; hence its name is *tian gui*.

He also says that the generation of *tian gui* has nothing to do with Heart, Liver or Spleen: these organs only help its transformation into Blood. His original passage says: 'Menstrual blood is not blood but "heavenly water", originating within the kidneys, it is the essence of extreme yin and the qi of extreme yang. It is red like blood but it is not blood. That is why it is called "heavenly gui". People nowadays regard menstrual blood as blood, a mistake perpetuated for 1000 years...in fact it is not called blood-water (*xue shui*) but menstrual water (*jing shui*)...the generation of "kidney water" (and therefore menstrual blood) has nothing to do with heart, liver and spleen, but the transformation of "kidney water" is helped by heart, liver or spleen.'⁷

Thus, if a woman suffers a cut to a finger, that 'blood' coming out is 'Blood', but it is different from menstrual blood which is *tian gui*. Thus, in women, there are two 'types' of 'blood': 'ordinary Blood' that is stored by the Liver and that nourishes hair, sinews, nails and eyes and that houses the *hun*; and menstrual blood that is *tian gui*. However, there is a connection between these two types of blood and that connection takes place through the Liver: this is why a woman who suffers from scanty periods from a deficiency of *tian gui* may also have symptoms and signs from a deficiency of 'ordinary Blood' such as dry hair or blurred vision.

Fig 1 illustrates the connection and the overlap between 'ordinary Blood' and *tian gui*.



In my opinion, '*tian gui*' is not just menstrual blood but it encompasses the ova from the ovaries. Thus the Su Wen says 'when *tian gui* arrives a girl can conceive, it is the follicles in the ovaries, and not menstrual blood, that renders her fertile.'

Liver Blood in Gynaecology

The Liver stores Blood and provides Blood to the uterus in close co-ordination with the *chong mai*. Women are very prone to Blood deficiency, partly from the monthly loss of blood occurring with the periods themselves, and partly from diet, overwork, and emotional stress.

Liver Blood deficiency can cause infertility, scanty periods, delayed cycle, or amenorrhoea. In women, it also causes some dryness such as dry skin and dry hair. The pulse would be choppy or fine and the tongue pale and possibly thin.

To nourish the Liver means nourishing Liver Blood or Liver *yin*. A deficiency of Liver Blood and/or Liver *yin* may be at the root of amenorrhoea or infertility. Non-gynaecological clinical manifestations include poor memory, insomnia, blurred vision, dry eyes, dry hair, tingling of limbs, a pale and dry tongue and a choppy or fine pulse.

The chief herb to nourish Liver Blood is of course *dang gui* (Radix Angelicae sinensis) and others include *shu di huang* (Radix Rehmanniae glutinosae preparata), *gou qi zi* (Fructus Lycii chinensis), *sang ji sheng* (Ramulus Sangjisheng), *bai shao* (Radix Paeoniae alba) and *long yan rou* (Arillus Euphoriae longanae). Formulae that nourish Liver Blood include *si wu tang* (Four Substances Decoction), *ba zhen tang* (Eight Precious Decoction), *dang gui shao yao san* (Angelica-Paeonia Powder) and many others, many of which are based on *si wu tang*.

The formula *si wu tang* (Four Substances Decoction) forms the basis for endless variations which can treat most menstrual problems. For example, the book *Essential Methods of Dan Xi* (1347) mentions several variations of this formula: 'For late periods with scanty blood use *Si Wu Tang* plus *Dang Shen* and *Bai Zhu*. If there is phlegm and leucorrhoea add *Ban Xia* and *Chen Pi* [to *Si Wu Tang*]. If there is blood-heat and the periods are irregular use *Si Wu Tang* plus *Huang Lian*. If there is blood-heat and the menstrual blood has clots and is painful use *Si Wu Tang* plus *Xiang Fu* and *Huang Lian*. If there is blood deficiency and the periods are late use *Si Wu Tang* plus *Huang Qi*, *Chen Pi* and *Sheng Ma*. If there is backache and abdominal pain during the period with stagnation of qi and stasis of blood use *Si Wu Tang* plus *Hong Hua*, *Tao Ren*, *E Zhu*, *Yan Hu Suo*, *Xiang Fu* and *Mu Xiang*. If there is heat and the menstrual blood is dark with clots use *Si Wu Tang* plus *Huang Lian* and *Chai Hu*. If the blood is dried up and there is amenorrhoea use *Si Wu Tang* plus *Tao Ren* and *Hong Hua*. If there is abdominal pain during the period use *Si Wu Tang* plus *Chen Pi*, *Yan Hu Suo*, *Mu Dan Pi* and *Gan Cao*. If there is yin deficiency with scanty urination, body aches and amenorrhoea use *Si Wu Tang* plus *Cang Zhu*, *Niu Xi*, *Chen Pi* and *Gan Cao*'.⁸

Liver Blood Deficiency as the Centre and Root of Other Patterns

Liver Blood deficiency is often the root of many other patterns and especially:

- Liver *qi* stagnation
- Liver *yang* rising
- Wind Heat in the skin
- Empty Heat
- Heart Blood deficiency
- Kidney *yin* deficiency
- Kidney *yang* deficiency
- Cold in the uterus
- *Qi* deficiency
- Liver Blood stasis

Liver *qi* stagnation

It is important to note that Liver *qi* and Liver Blood represent the *yang* and the *yin* aspects of the Liver sphere: they need to be harmonized, i.e. *yin* should root and 'embrace' *yang*. Very often, if *yin* is deficient (i.e. Liver Blood deficiency) it fails to restrain and root *yang* (Liver *qi*) so that Liver *qi* stagnates.

That this stagnation is secondary to Liver Blood deficiency is clear from the tongue being pale and the pulse being either not wiry or only very slightly wiry on the left side. In women, this is more the norm than the exception, i.e. Liver *qi* stagnation deriving from Liver Blood deficiency.

This explains the very common clinical situation of a woman who has many classical symptoms of Liver *qi* stagnation such as pre-menstrual tension, distension of breasts and abdomen, or irritability, but whose pulse and tongue do not reflect this, i.e. the pulse is not wiry and the tongue is not red or purple on the sides. If the tongue is pale and the pulse choppy or fine and only slightly wiry on the left, this clearly means that the Liver *qi* stagnation is secondary to Liver Blood deficiency.

I therefore distinguish two types of Liver *qi* stagnation: the first is characterized by full-blown Liver *qi* stagnation deriving from emotional stress. In this case the pulse is full and wiry on both sides and the applicable formula is *yue ju wan* (Gardenia-Chuanxiong Pill).

The second is characterized by Liver *qi* stagnation occurring against a background of or arising from Liver Blood deficiency. In

this case the pulse may be wiry on the left and weak on the right or fine in general and slightly wiry. The applicable formula for this situation is *xiao yao san* (Free and Easy Wanderer Powder).

The following table compares and contrasts 'primary' and 'secondary' Liver *qi* stagnation.

	Full-blown Liver <i>qi</i> stagnation ('primary')	Liver <i>qi</i> stagnation with Liver Blood deficiency ('secondary')
Premenstrual symptoms	Irritability, propensity to outbursts of anger, pronounced breast distension (possibly pain)	Mild irritability, depression, crying, slight breast distension
Tongue	Either normal or red on the sides (Liver area)	Normal, pale in general, or pale sides.
Pulse	Full and wiry on both sides	Wiry on the left, weak on the right or fine and slightly wiry
Formula	<i>Yue ju wan</i> (Gardenia-Chuanxiong Pill)	<i>Wiao yao san</i> (Free and Easy Wanderer Powder)

Liver Blood deficiency with Liver *yang* rising

This is a very common combination of patterns in women. The rising of Liver *yang* may be due to many different patterns such as Liver Fire, Liver *yin* deficiency or Kidney *yin* deficiency. In women, it often derives from Liver Blood deficiency. In such cases, the woman will have a pale tongue and a choppy or fine pulse, while the headaches present all the characteristics of Liver *yang* rising, i.e. throbbing headache, dizziness, visual disturbances and possibly nausea and vomiting.

The formulae for this combination of patterns are *tian ma gou teng yin* (Gastrodia-Uncaria Decoction) or *bu gan tang* (Tonifying the Liver Decoction).

Liver Blood deficiency with Wind Heat in the skin

Liver Blood nourishes and moistens the skin and Liver Blood deficiency is at the root of many skin diseases. In the context of skin diseases, Liver Blood often gives rise to 'Wind': this is neither the internal Wind that causes a stroke, nor the external Wind that causes a cold. It is 'Wind' in the skin and its manifestations in the context of skin problems are itching, skin lesions that appear or disappear suddenly, skin lesions that move from place to place. Liver Blood deficiency may occasionally also cause scaling of the skin: this is sometimes seen in psoriasis if there are white/pale and dry scales. When Liver Blood is deficient the skin may become dry and itchy: this often happens during the menopause when women complain of itchy skin without any apparent rash. Representative prescriptions: *yang xue ding feng tang*

(Nourishing Blood and Subduing Wind Decoction) or *yang xue run fu yin* (Nourishing Blood and Moistening the Skin Decoction).

Liver Blood deficiency with empty Heat

Although strictly speaking empty Heat arises from *yin* deficiency, in women it can actually develop from Blood deficiency too. This explains many cases of feeling of Heat in the face without *yin* deficiency and with a pale tongue. It may also be seen in women who are very pale (from Blood deficiency) but with red cheekbones.

The representative prescription is *qin lian si wu tang* (Scutellaria Coptis Four Substances Decoction).

Liver Blood and Heart Blood deficiency

Liver Blood deficiency often causes Heart Blood deficiency due to the relationship of Mother-Child within the Five Element scheme. Besides this, the Liver stores Blood and the Heart governs Blood, hence a deficiency in the storage of Blood by the Liver naturally affects Heart Blood. The simultaneous deficiency of Liver and Heart Blood has often mental-emotional aspects due to Liver Blood housing the *hun* and Heart Blood the *shen* (see below).

The representative prescription for this condition is *gui pi tang* (Restoring the Spleen Decoction).

Liver Blood and Kidney *yin* deficiency

Liver Blood and Kidney *yin* are closely connected and influence each other due to the relationship of mutual nourishment between Blood and *jing*, Water and Wood, and that between Liver and Kidneys.

The representative prescriptions for this situation are *dang gui di huang yin* (Angelica Rehmannia Decoction) and *ba wei di huang wan* (Eight Ingredients Rehmannia Pill), both variations of *liu wei di huang wan* (Six Ingredients Rehmannia Pill).

Liver Blood and Kidney *yang* deficiency

A deficiency of Kidney *yang* is often associated with Liver Blood deficiency due to the interrelationship Kidney-*chong mai*-uterus-Blood-Liver. This combination of patterns is very common in women who often suffer from both Blood and *yang* deficiency.

The representative prescriptions for this situation are *you gui wan* (Restoring the Right [Kidney] Pill) or *zan yu dan* (Aiding Fertility Pill).

Liver Blood deficiency and Cold in uterus

When Liver Blood is deficient the uterus is empty and in a vulnerable condition so that it can be easily invaded by Cold. Vice versa, when Cold obstructs the uterus, Liver Blood cannot be stored properly and this may lead to a Blood deficiency. Thus, Liver Blood deficiency and Cold often coexist.

The representative prescription (especially for the latter condition) is *wen jing tang* (Warming the Menses Decoction).

Liver Blood deficiency and *qi* deficiency

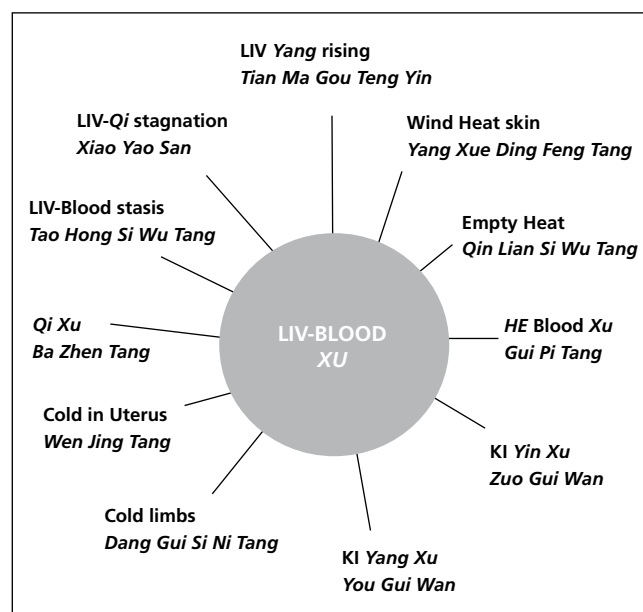
As Blood is the mother of *qi*, Liver Blood deficiency almost inevitably leads to *qi* deficiency. In fact, the representative prescription for this condition is the well known *ba zhen tang* (Eight Precious Decoction).

Liver Blood deficiency and Liver Blood stasis

When Liver Blood is deficient blood often fails to move properly and this may lead to Blood stasis: this combination of pattern is very common in gynaecological problems.

The representative prescription for this condition is *tao hong si wu tang* (Persica Carthamus Four Substances Decoction).

Fig 2 illustrates the various patterns originating from or associated with Liver Blood deficiency.



Liver Blood deficiency with Cold in the channels

When a patient suffers from cold limbs the first pattern we would think of is *yang* deficiency. However, there are other causes of cold limbs and Liver Blood deficiency is one of them in women (Liver *qi* stagnation may be another).

The representative prescription for cold hands and feet from Blood deficiency in women is *dang gui si ni tang* (Angelica Four Rebellious Decoction).

Heart Blood and *shen*

Shen is very closely connected to Blood and especially Heart

Blood. This connection is that root of Chinese medicine's view of the body and mind as an integrated whole. Blood 'roots' the *shen* and influences its state. How closely connected Blood and *shen* are is obvious from this statement from the Su Wen (chapter 26): 'Blood and *qi* are the *shen* of a person.'⁹

Thus, if Blood is deficient, the *shen* is 'unrooted' and the person will suffer from anxiety and/or insomnia. Conversely, if Blood has Heat, this will also affect the *shen* and cause anxiety and/or insomnia: in this case, the anxiety will be more pronounced than that caused by Blood deficiency. Note that blood stasis too may agitate the *shen* causing anxiety and insomnia.

Please note that Blood deficiency does not always cause anxiety: in many people it may cause depression (of course the two often occur together). This is explained overleaf.

Liver Blood and *hun*

Just as Heart Blood houses the *shen*, Liver Blood houses the *hun*. The famous chapter 8 of the Ling Shu says: 'The Liver stores Blood and Blood houses the *hun*'.¹⁰ The *hun* is also responsible for sleep and there is an overlap between the Heart and Liver Blood in the pathology of sleep. The *hun* should go back to the Liver at night: if it does, sleep is peaceful (provided the *shen* also goes back to the Heart). If Liver Blood is deficient, it may fail to anchor the *hun* at night and sleep will be restless. In particular, restlessness of the *hun* at night causes excessive dreaming: therefore a sleep problem is particularly related to the *hun* (and therefore the Liver) if there are restless dreams or nightmares.

Blood as the 'Border' between *qi* and *yin*

Blood is closely related to *qi* but it is also part of *yin*. Blood is related to *qi* in that '*qi* is the commander of Blood and Blood is the mother of *qi*'. Moreover, *qi* is the source of Blood as this is made in the Middle Burner from *gu qi* of the Spleen.

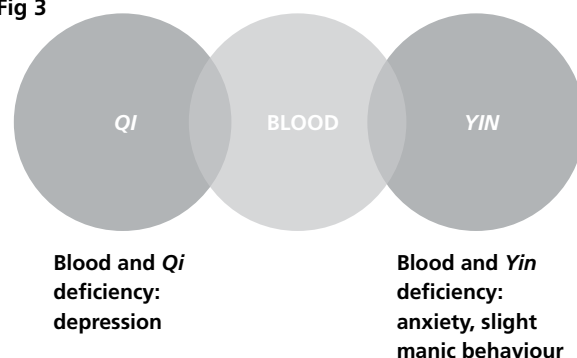
On the other hand, Blood can also be considered as part of *yin* as they are both fluids (and that is why Blood deficiency in women may give rise to empty Heat).

The dual relationship of Blood to *qi* and *yin* is reflected in pathology, with Blood in the middle of a pathological continuum between *qi* and *yin* deficiency.

This has great relevance in mental-emotional problems. Why do some people with Blood deficiency suffer from depression and some from anxiety or even slight manic behaviour?

If Blood deficiency is associated with *qi* deficiency, the person may suffer from depression and the movement of the *hun* is insufficient. If Blood deficiency tends towards *yin* deficiency, the person may suffer from anxiety or even perhaps slight manic behaviour and the movement of the *hun* is excessive.

Fig 3



Treatment of Blood Deficiency with Acupuncture

Treatment of Blood deficiency depends on two factors: which organ is affected and whether it is a deficiency of so-called 'ordinary' Blood or of *tian gui*. I will list below the acupuncture treatment that I use: of course, this is only my experience and practitioners' views may differ on the best points to nourish Blood.

Liver Blood deficiency

Liv 8 *qu quan*, St 36 *zu san li*, Sp 6 *san yin jiao*, Bl 18 *gan shu* with Bl 17 *ge shu* (direct moxa).

Heart Blood deficiency

Ht 7 *shen men*, Bl 15 *xin shu* with Bl 17 *ge shu* (direct moxa), Ren 15 *jiu wei*.

Spleen Blood deficiency

Bl 20 *pi shu*, Bl 21 *wei shu*, Ren 12 *zhong wan*, St 36 *zu san li*, Sp 6 *san yin jiao*.

Deficiency of *tian gui* in gynaecology

Liv 8 *qu quan*, St 36 *zu san li*, Sp 6 *san yin jiao*, Ren 4 *guan yuan*, Ki 3 *tai xi*, Bl 23 *shen shu*.

Conclusion

This article discusses the origin of Blood and its relationship with *qi* and *jing*, it works out the signs and symptoms of Blood deficiency and outlines the three main syndromes, Liver Blood, Heart Blood and Spleen Blood deficiency, as well as providing a context where blood conditions appear in a large number of clinical conditions. Attention is given to the fact that 'ordinary Blood' needs to be separated from '*tian gui*' (menstrual blood), also referred to as 'heavenly Water from the Kidneys', which overlap and influence each other and yet need to be understood as different entities.

The main part of the article focuses on Liver Blood in gynaecology and its relationship with Liver *qi* (*yang* aspect), Liver Blood (*yin* aspect) and Liver *qi* stagnation. It examines the various patterns originating from or being associated with Liver Blood deficiency

and the rationale for the many well known Chinese medicine prescriptions used in the resulting conditions.

A short appreciation of the relationship of Heart Blood with *shen*, Liver Blood with *hun* and the dual relationship of Blood to *qi* and

yin follow, as can be seen in conditions like depression, anxiety or manic behaviour. The article finishes with a short summary of suggested acupuncture points in the treatment of the main syndromes, Liver Blood, Heart Blood and Spleen Blood deficiency, as well as deficiency of *tian gui* in gynaecology.

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