

(From "A Study of the Treatment of Threatened Abortion with Self-composed An Tai Yin (Quiet the Fetus Drink) and Its Influence on Immunoglobulins" by Zhu Yong Chang, Li Guo-wei, Chen Wei & Ying Jian--jin, *He Nan Zhong Yi [Henan Chinese Medicine]*, #2, 1995, p. 106-107)

According to the authors, threatened abortion is categorized in Chinese medicine as fetal stirring restlessness, fetal leakage, and slippery fetus. In terms of its disease mechanisms, if there is spleen/kidney deficiency or qi and blood vacuity, there is easy falling, while if there is yin vacuity with internal heat, there is easy stirring. Modern reproductive immunology relates miscarriage with immunity. Between January 1991 and August 1992, the authors treated 55 cases of threatened abortion with self-composed An Tai Yin as well as studied this formula's effects on immunoglobulins.

Of the 55 women in this study, there were 44 workers and 11 cadres, business people, and farmers. Their main symptom was vaginal tract bleeding after having become pregnant. In 37 cases there was also abdominal pain, while in 39 cases there was low back soreness. The youngest of these women was 26 and the oldest was 43 years old. There were 11 cases 30 years old or younger, 26 cases 31-35, 13 cases 36-40, and 5 cases 41 years old or older. These women's last periods had all stopped 30-82 days previously. Seven cases had stopped 30-40 days before, 19 cases 41-50 days before, 15 cases 51-60 days before, 4 cases 61-70 days before, 8 cases 71-80 days before, and 2 cases had had their last periods 81 or more days before. The shortest length of time that any of these women had bled was 1 day and the longest was 24 days, with most cases having bled for 2-7 days. There were 3 primiparas, 28 women had had 1-2 miscarriages, and 14 cases had had 3 or more miscarriages. Hemoglobin was as low as 85g/L and as high as 134g/L, while white blood cells were as low as $4.5 \times 10^9/L$ and as high as $10.8 \times 10^9/L$.

Chinese medicine pattern discrimination:

1. Spleen/kidney insufficiency pattern (28 cases)

Main symptoms: A scanty amount of vaginal tract bleeding after having stopped menstruating, color pale red, low back and knee soreness and weakness, insidious pain in the lower abdomen, torpid intake, nausea, loose stools, frequent urination, a pale tongue with a thin, white coating, and a fine and slippery pulse

2. Yin vacuity, internal heat pattern (20 cases)

Main symptoms: Vaginal tract bleeding after having stopped menstruating, amount sometimes excessive, sometimes scanty, color fresh red, low back soreness, lower abdominal distention and pain, heart vexation, insomnia, a dry mouth and desire to drink, dry, bound stools, a red tongue with a thin, yellow coating, and a slippery, rapid pulse

3. Qi & blood dual deficiency pattern (7 cases)

Main symptoms: Vaginal tract bleeding after having stopped menstruating, amount scanty, color pale red, low back soreness, lower abdominal insidious pain and a sensation of downward sagging, a lusterless facial complexion, essence spirit withering, heart palpitations, shortness of breath, a pale tongue with a thin, white coating, and a vacuous, slippery pulse

Treatment method:

Self-composed An Tai Yin was composed of: Radix Codonopsis Pilosulae (Dang Shen), 15g, Rhizoma Atractylodis Macrocephalae (Bai Zhu), 9g, Radix Angelicae Sinensis (Dang Gui), 9g, Ramus Loranthis Seu Visci (Sang Ji Sheng), 15g, Cortex Eucommiae Ulmoidis (Du Zhong), 9g, Fructus Corni Officinalis (Shan Zhu Yu), 9g,

Caulis Millettiae Seu Spatholobi (Ji Xue Teng), 15g, Radix Scutellariae Baicalensis (Huang Qin), 9g

Additions & subtractions: If there was low back soreness, Radix Dipsaci (Chuan Duan Rou), 15g, was added. If there was abdominal pain, roasted Radix Aucklandiae (Mu Xiang), 10g, was added. If vaginal tract bleeding was excessive, carbonized aged Petiolus Trachycarpi (Chen Zong Tan), 12g, and carbonized Cacumen Biotae Orientalis (Ce Bai), 15g, were added. If there was vomiting, ginger [-processed] Caulis Bambusae In Taeniis (Zhu Ru), 9g, and ginger [-processed] Rhizoma Pinelliae Ternatae (Ban Xia), 6g, were added. Each day 1 ji decocted in water was administered.

Treatment outcomes:

This protocol for protecting the fetus was successful in 47 out of 55 cases. This meant that in 47 cases, the women gave birth at the normal time and there were no birth defects. In 7 cases, within one week of being admitted to the hospital, ultrasonography showed the fetuses had stopped growing and these women subsequently had D & C's. In one other case, the woman had a D & C abortion in the 11th week. Chromosomal analysis of these eight dead fetuses revealed one case produced by 47xx+19, 1 case produced by 47xx+21, 1 case of embryollic death could not be determined, and 5 cases were normal.

All 55 women had their blood drawn the second day of their hospitalization. Thirty-two of these women had their blood drawn again after one month's treatment with self-composed An Tai Yin. As mentioned above, 8 women had D & C abortions before receiving 1 full month of treatment and so their blood was not drawn again. Another 15 women due to various reasons also did not have their blood drawn again. The blood work of these 55 women with threatened abortion was compared to a control group of normal women.

Serum immunoglobulins vis à vis the normal comparison group

	55 normal women Normal values	55 cases of threatened abortion Medium values	Study values	Median values P
IgG	750-1646	1208	998.6-2000	1355.36 <0.01
IgM	50-200	129	60-400	164.16 <0.01
IgA	73-340	200	85-338	201.8 >0.05
C3	100	84-240	154.84	<0.01

Thus it can be seen that the serum immunoglobulins IgG, IgM, and complement C3 were all markedly higher than normal (P < 0.01), while IgA was not markedly abnormal.

Median serum immunoglobulins vis à vis TCM patterns

	Sp/Ki insufficiency 28 cases	Yin vacuity, internal heat 20 cases	Qi & blood vacuity 7 cases
IgG	1375.36	1343.18	1310.14
IgM	185.75	136.4	157.14
IgA	197.68	207.6	201.71
C3	160.35	151.75	141.57

This means that IgG and complement C3 were the markedly increased in those with the spleen/kidney insufficiency group, second highest in the yin vacuity, internal heat group, and the lowest in the qi and blood dual

vacuity group. IgM was markedly increased in those in the spleen/kidney insufficiency group, second in the qi and blood dual vacuity group, and not markedly increased in the yin vacuity, internal heat group. There was no marked observable difference in IgA between these three TCM groups.

Median serum immunoglobulins before & after treatment

	32 cases before tx	32 cases after tx	P value
IgG	1354.95	1303.54	<0.01
IgM	162.19	161.22	>0.05
IgA	202.8	190.31	>0.05
C3	154.24	155.66	>0.05

Of the 32 cases of threatened abortion that were treated with self-composed An Tai Yin for one month, their vaginal tract bleeding stopped and ultrasonography showed that their fetuses were developing normally. In addition, IgG levels decreased ($P < 0.01$), while there was no marked change in IgA, IgM, or complement C3.

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