Decreased Frequency Of Blood Transfusions In A Patient With Waldenstrom's Macroglubulinemia (WM): Integration Of Chinese Medicine

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WM Definition and Epidemiology

Definition

- WM is a condition where the infiltration of the bone marrow by clonal lymphoplasmacytic cells and monoclonal IgM proteins are 10% or greater.

Epidemiology.

- Around 1400 new cases are diagnosed in the United States each year.
- The median age at diagnosis is 64 years; less than 1 percent of patients are under 40 years of age, and approximately 60 percent are males.
- WM is much more common in Caucasians than in other ethnic groups.

WM Pathophysiology

The malignant B cells of WM produce abnormal monoclonal IgM which may manifest itself most commonly in several different mechanisms clinically.

Cytopenias, Lymphadenopathy, Organomegaly

- The malignant B cells may directly infiltrate the hematopoietic tissues resulting in cytopenia such as anemia, thrombocytopenia, neutropenia and lymphadenopathy, hepatomegaly, and/or splenomegaly.

Hemolytic Anemia

- The IgM may act as antigens on the patient's own red blood cells resulting in a Coombs positive autoimmune cold hemolytic anemia.

Neuropathy

- The IgM may act as an autoantibody and attack the myelin-associated glycoprotein or other nerve components.

Kidney and Gastrointestinal symptoms

- IgM proteins may be deposited in the extracellular space of the kidneys, gastrointestinal tract, or skin as unstructured materials leading to symptoms.

Cryoglobulinemia

- The IgM protein may precipitate out of the serum in cold temperatures resulting in and become insoluble at room temperatures.

Hyperviscosity

- IgM molecules may increases serum viscosity thereby slowing the passage of blood through capillaries.

WM Clinical Presentation

- More than 70 percent of patients have stage IV disease by virtue of bone marrow involvement at the time of diagnosis though 30% present as asymptomatic.
- Anemia - (Most common symptoms)
  - Pallor, weakness and fatigue,
- Systemic B symptoms-25%
  - Fever
  - Nightsweats
  - Weight loss
- Chronic bleeding from nose or gums-23%
- Lymphadenopathy-25%
- Hepatomegaly-24%
- Splenomegaly-20%
- Neurologic symptoms -22% (worst is blindness, hearing loss)
- Symptoms secondary to hyperviscosity- 31%
- Funduscopic abnormalities -34%

I. Background

This is a case of a 51 year old white male patient diagnosed with Waldenstorm's macroglobulinema (WM) in early 2002. All conventional treatment options failed to control disease progression. The patient became blood transfusion dependent and was referred to integrative care to include Chinese Medicine into his standard care.

II. Method

From December 2007 until February 2010, the patient was prescribed herbal formulas and acupuncture treatments in addition to his regular standard care which involved 9 cycles Rituximab, 1 cycle of Cyclophosphamide and Prednisone, platelet and RBC transfusions, and Neulasta /Neupogen injections as needed. The patient was monitored with weekly and sometimes biweekly blood draws.

Chinese Medicine Diagnosis:

Tongue: pale, thin white coating, scallop
Pulse: deep, slow, weak, thin
Spleen Qi deficiency. Qi and blood deficiency. Kidney Yang deficiency.

Acupuncture Points Prescription:

DU20, LI11, LI4, ST 25, REN4, REN6, REN12, ST36, SP9, SP6, GB39, LV3, LV5, UB13, UB15, UB20

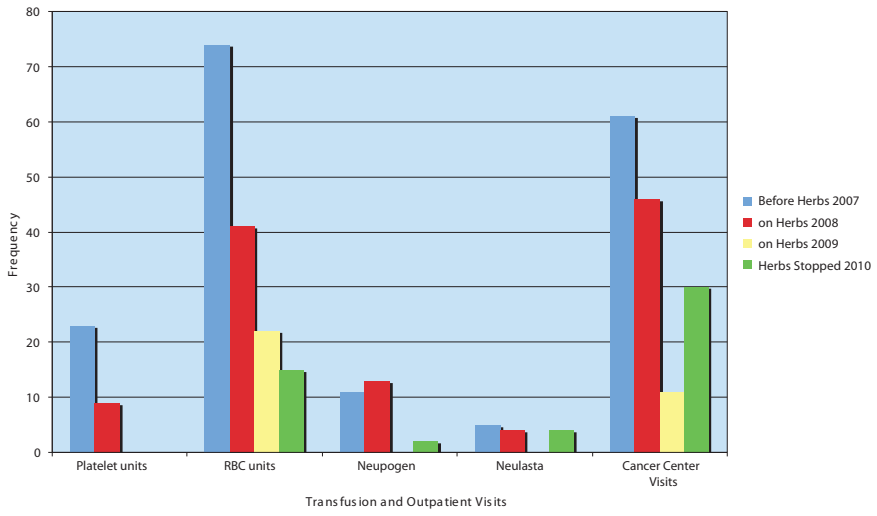
Chinese Herbal Formulas Prescription

Formula / Herb	Traditional Functions	Pharmacology/Western Usage
Ba Zhen Tang Eight Treasures Decoction Ren Shen Ginseng Radix Shu Di Huang Radix Rehmannia Praeparata Bai Zhu Rhizoma Atractylodes Macrocephalae Dang Gui Radix Angelica Sinensis Fu Ling Poria Bai Shao Radix Paeonia Alba Zhi Gan Cao Radix Glycyrrhizae Praparata Chuan Xiong Rhizoma Chuanxiong	Tonifies qi and blood.	■ chronic leukemia ■ anemia ■ chronic fatigue syndrome ■ short term memory loss ■ malnutrition associated anorexia ■ hypoglycemia, ■ optic atrophy ■ chronic hepatitis
Huang Qi Astragali Radix	1) Tonifies qi and blood. 2) Tonifies the Spleen and raises the yang. 3) Augments the protective qi and stabilizes the exterior. 4) Promotes the urination and reduces edema. 5) Promotes the discharge of pus and generates flesh.	■ Anti-inflammatory ■ Anxiolytic ■ Cardiotonic ■ Diuretic ■ Eliminate toxins ■ Immunostimulant
Rou Gui Cinnnamomi Cortex	1) Fortifies the Kidney and Spleen yang. 2) Disperses deep cold, warms the channels, unblocks the channels and vessels and alleviates pain. 3) Leads the fire back to its source. 4) Encourages the generation of qi and blood.	■ Analgesic ■ Antibacterial ■ Hematopoietic (WBC) ■ Radiation (protective)
Tai Zi Shen Pseudostellariae Radix	1) Strengthens the Spleen and augments the qi. 2) Generates fluids.	
E Jaio Asini Corii Colla	1) Tonifes the blood. 2) Nourishes the blood and stops bleeding. 3) Nourishes and moistens the yin.	■ Antifatigue ■ Hematopoietic (RBC) ■ Immunostimulant ■ Radiation (protective)
Ling Zhi Ganoderma Lucidum	1) Nourishes the Heart and Calms the Shen. 2) Stops coughing and arrests wheezing. 3) Tonifes qi and nourishes blood.	■ Analgesic ■ Antibacterial ■ Anticoagulant ■ Antineoplastic ■ Cardiotonic ■ Cognitive ■ Hepatoprotective ■ Immunostimulant ■ Radiation (protective)
Tu Si Zi Cuscuae Semen	1) Tonifies the yang, augments the yin, and secures the essence and the urine. 2) Tonifies the kidneys and Liver and improves the vision. 3) Benefits the Spleen and Kidneys and stops diarrhea. 4) Calms the fetus.	■ Antiaging ■ Antibacterial ■ Antidiarrheal ■ Antineooplastic ■ Immunostimulant

III. Results

Before the Chinese Herbal Medicine intervention, the patient's platelet count went from a high of 323 x103/ul to 4 x10 3/ul within 12 months and the mean hemoglobin/ hematocrit (hgb/hct) count was 7.81/ 21.66 g/dl for that year. His treatment plan that year included transfusion of 23 units of platelets, 74 units of RBC and had 61 clinic visits. One year after integrating Chinese Medicine in his treatment plan, the mean of his platelet count was 21 x103/ul and his hgb/hct mean was 8.058/23.66 g/dl. He received 9 units of platelets, 41 units of RBC and his clinic visits dropped to 46 times. Two years later, his platelet count mean was at 63 x10 3 /ul and his hgb/hct count mean was 8.38/26.5 g/dl. He received 2 units of platelets, 22 units of RBC and his clinic visits were 11 times.

Blood Transfusion and Outpatient Visit Frequency in Conjunct with Chinese Medicine



Summarization

Year (Jan. to Dec.)	Platelets (1000/ul)	Platelets: Transfusions	Hemoglobins (g/dl)	Red Blood Cells: Transfusions Times	Outpatient Visits
2007 (Dec.13 Herbs)	4	23	7.8	74	61
2008	21	9	8	41	46
2009	63	2	8.38	22	11

IV. Conclusion

Integration of Chinese Medicine decreased the frequency of blood transfusions as well as the number of the patient's clinic visits and improved his quality of life. The herbs may have increased the sensitivity of the chemotherapy, strengthened the immune system, and enhanced hematopoietic effects. Further study is warranted.

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