

Shi Quan Da Bu Tang: A Review

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DIGITAL EXCLUSIVE

Shi quan da bu tang (SQDB) is one of the most popular traditional Chinese formulas still in use today. A thousand years ago, it was already being referred to as a treatment for systemic weakness and a range of *qi* deficiency conditions, with symptoms ranging from strains and injuries to depression, anxiety, and chronic lung ailments like asthma. In more recent times, these applications and others have been widely studied in clinics and laboratories on both sides of the Pacific. The present paper reviews the published research on SQDB in gerontology and oncology, two areas most promising to clinical practitioners.

Gerontology

Metabolically, Chinese medicine thinks of aging as a progressive "deficiency disease." As such, its effects are similar to those of many degenerative diseases, congenital *qi* deficiencies, and even certain pathological states such as chronic fatigue syndrome, anemia or infertility.

One measure of a deficiency disease is the status of the immune system as measured by the body's level of T-cell activity. T-cells identify and destroy antigens such as toxins and tumor cells, and trigger a host of other immune responses. With age, the body tends to produce fewer of these crucial agents, but SQDB shows a potential to reverse that trend. Two separate studies found that elderly mice given the formula daily were able to generate new T-cells, correct their impaired T-cell activity, and restore the strength of their immune systems.^{1,2} The formula, they speculated, "may help prevent the development of diseases in the elderly," and clearly merits larger follow-up studies on human subjects. (Curiously, one of the studies found that the treatment did nothing to enhance the immune functions of younger mice.)³

It's easy to see how bone loss from old age would qualify as a deficiency disease. Here, too, SQDB is showing promise in the research lab. In Japan, researchers performed ovariectomies on rats to simulate the bone loss associated with menopause.⁴ Their bone density had declined to 20 percent of the control group. A second test group received SQDB, effectively preventing bone loss secondary to ovariectomy. Electron microscopy confirms that their tibia bones (herbal treatment group) remained relatively fine and smooth compared to the porous and corroded tibias of the untreated group of rats. Finally, a third group of ovariectomized rats received hormone-replacement therapy (17-beta estradiol), which similarly protected these rats from the bone loss seen in the untreated group. Clearly, the herbs proved to be as effective as hormone replacement therapy in preventing bone loss. As with the immune-system studies, human clinical trials are urgently needed.

Oncology

TCM principles have been inspiring cancer researchers for more than 40 years. As they would with any pathological condition, such researchers view cancer as an immune deficiency disease, since "evil *qi*" cannot enter or attack a body until its resistance is dangerously weak. The appropriate

response, then, is centered upon tonifying, or nourishing, the *zheng qi*, the body's natural resistance to disease.^{5,6}

Preventing Tumor Growth

One group of Japanese researchers investigated what effect the formula would have on the growth of fibrosarcomas in mice.⁷ They administered SQDB to a group of mice for seven days after inoculating them with QR-32 tumor cells. Compared to the control group, their tumors grew far more slowly and their lives were prolonged significantly. As measured on day 25, the beneficial effects proved to be dose-dependent (from 4 to 40 mg/day). In separate tests, the researchers found that pretreating a group of mice with SQDB for seven days before inoculating them with the tumor cells proved equally effective, whereby on day 25, tumor growth was significantly impaired.⁸

Another laboratory studied the preventive effects of SQDB on endometrial carcinogenesis in mice.⁹ They removed the ovaries from their test animals and introduced controlled carcinogens such as 17-beta estradiol into their uteri. Two weeks of subsequent treatment with SQDB reduced the measurable levels of certain oncoproteins, which are precursors to tumor formation. In a subsequent experiment, researchers injected a different carcinogen into the left ovaries of 93 mice, and in inert saline solution into the right ovaries. They then tested various dietary additives involving both estrogen and SQDB, and found that the herbal compound actually inhibited the formation of tumors.

An influential study from Chen Du's TCM University in China illustrated that a slight modification of SQDB (with the addition of *san leng/sparganii* and *er zhu/curcumae*) could enhance its potential to inhibit mouse tumors and resist the debilitating effects of chemotherapy.¹⁰ Subjects treated with the compound had higher white blood cell counts and healthier lymphatic systems than a control group treated with chemotherapy alone. These results were later corroborated by researchers from Shanghai¹¹ and Shan Dong.¹² With so many hopeful indications, it is timely to recall that no research has suggested that SQDB alone could be effective against cancer. What current research does seem to show is that the formula can both enhance Western treatments for cancer and decrease some of their debilitating side-effects.

Anti-Metastatic Properties

The TCM approach to fighting cancer considers bolstering the immune system a primary goal. In practice, cancer almost never kills before it metastasizes,¹¹ and Chinese medicine believes that a strong immune system is the key to either postponing metastasis or, on occasion, preventing it from ever taking place.^{13,14}

Thus, for example, one study of 300 lung cancer patients in China found that 80 percent of them had strong signs of yin and *qi* deficiency. Tonifying the *qi* and nourishing the yin energy directly enhance the immune system, resulting in a negative impact on the ability of a patient's tumors to metastasize.¹⁵

SQDB has been tested in a number of settings for its efficacy as a tonifying agent. It was found to readily inhibit laboratory-induced tumors from metastasizing in rat livers.^{7,8} Indications were that it accomplished this by activating microphages and/or T-cells in the infected animals. These actions as an immune-enhancing agent supported further investigation of the synergy between SQDB and Western immune enhancers.

Interferon is one candidate for such multidrug applications. One laboratory studied its impact on mouse kidney tumors' ability to travel to and attack the lungs. At a dosage of 100,000 IU/mouse, interferon alpha significantly inhibited such metastasis, but at the cost of a marked loss in body weight.^{15,16} At the experimental dosage of 50 mg/mouse, a similar group of subjects showed a metastatic decline that was barely measurable. However, a combination therapy consisting of suboptimal doses of interferon alpha and SQDB together managed an effective energy, containing most of the tumor cells with no loss of body weight at all. These results were later replicated using interferon gamma, with substantially the same results.¹⁶ Current immunotherapy utilizing interferon has been approved for patients with advanced renal carcinoma, but results have been disappointing. If the laboratory results hold true for humans, SQDB may have found an important application far beyond the horizons of Chinese medicine proper. At present, the compound is often administered to cancer patients,¹⁷ and has been shown to possess various health-related biological functions. It enhances phagocytosis, cytokine induction, and the production of antibodies.¹⁸

SQDB is compatible with surgical intervention and has no known contraindication with various chemotherapeutic protocols. It even works well in cases of radiation-induced immunosuppression. SQDB as part of an elaborate drug cocktail is likely to prove one of medicine's most welcome contributions from the TCM formulary in the years to come.

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