Suppressing Tumor Progression of In Vitro Prostate Cancer Cells by Emitted Psychosomatic Power through Zen Meditation

Abstract: Human prostate cancer PC3 cells were treated in vitro with psychosomatic power emitted by a Buddhist-Zen Master. A significant decrease of growth rate was observed as determined by MTT assay after 48 hours. These cells also had two- to three-fold higher levels of prostatic acid phosphatase (PACP) activity, a prostate tissue-specific differentiation antigen. In addition, the treated cells formed fewer and smaller colonies in soft agar as compared with control cells, which displayed anchorage-independent growth. These observations provide insight into the suppressive effects of healing power through the practice of Buddhist-Zen meditation on tumor progression. The emitted bioenergy may be suggested as an alternative and feasible approach for cancer research and patient treatment.

Keywords: Cancer; Complementary and Alternative Medicine; Meditation; Prostate Cancer; Psychosomatic Techniques; Qi; Qigong; Tumor; Zen Meditation.

Introduction

Prostate cancer is the most frequently diagnosed malignancy affecting adult men in industrialized countries. For example, there will be about 198,100 new cases of prostate cancer in the United States in the year 2001 and about 31,500 men will die of this disease according to the statistics of the American Cancer Society. Although a range of therapeutic products are available for androgen-dependent prostate cancer, limited specific intervention modalities can be suggested for androgen-independent prostate cancer. In addition, various multidrug-resistant proteins were expressed during drug treatment and cancerous cells with this phenotype may seriously reduce the effectiveness of chemotherapy. Once prostate cancer gets to an advanced stage, it is difficult to prevent tumor progression and a cure is almost impossible (Miyake et al., 2001; Farhat et al., 2000).

At the same time, there is growing attention to the health benefits of complementary and alternative medicine (CAM), which have been described as additional approaches to care outside of mainstream medical practice. One estimate is that more than US$13 billion is spent annually on complementary techniques in the United States alone (Schimpff, 1997). A recent report found a significant increase (from 34% in 1990 to 42% in 1997) of CAM use among the general public in the USA (Eisenberg et al., 1998). In particular, mind-body intervention is considered one of the most preferred and helpful complementary choices for cancer patients (Ernst, 2001; Balneaves et al., 1999). Clinical observations suggest dedicated involvement in meditation, or other related psychosomatic (or mind-body) techniques may even prolong the life of some patients with metastatic cancer (Cunningham et al., 2000; Magarcy et al., 1988; Woolley-Hart, 1979). Consequently, some oncologists suggest a need to consider
including education about meditation in oncologists' training (Farhat et al., 2000; Newell and Sanson-Fisher, 2000; Brennan and Stevens, 1998).

In the past several decades, scientists have been engaged in exploring the physiological and psychological effects of practicing psychosomatic techniques, such as Yoga, Qigong and Zen meditation. Zen meditation is a mental and physical practice of quieting the practitioner's mind and focusing the attention on the body's chakras (energy points) to transcend from a physical and mental level to a spiritual level. In the spiritual level, there is no thought, only blissful quiet, full of life energy and wisdom power. The three main elements of Zen meditation are: sitting, breathing and concentration. Several studies have provided undeniable evidence for the interconnectedness of psychosomatic power to the individual's cure as well as to animals, cells and materials outside the practitioner's body, including non-living matter. Rigorous experimental procedures were designed and modern instruments were employed to ensure reliable data. It was found that regular practice of meditation is associated with increased physiological levels of melatonin that may enhance the immunity of practitioners and reduce the growth of malignant prostate tumors (Coker, 1999; Massion et al., 1995). In addition to Zen meditation, Qigong exercises are also reported to reduce the drug dosage required for health maintenance and decrease the side effects of chemotherapy (Sancier, 1999). Similar results were found with "emitted psychosomatic power" to experimental animals. Lei et al. (1991) demonstrated that Qigong emitted Qi could promote the activity of splenic natural killer (NK) cells, macrophage-mediated tumor cytolysis activity and the production of interleukin-2 (IL-2) in treated mice (Lei et al., 1991). Lee et al. (2001) examined ChunSoo energy healing on NK cell cytotoxicity in vitro. They found that NK activity was significantly increased by emitted Qi treatment. Fukushima et al. (2001) investigated the biological effect on phosphate buffered saline (PBS). They found that the Qi-treated PBS clearly showed stimulating effect on phagocytic activity of human polymorphonuclear leukocytes. The activity of Qi-treated PBS could last for days or even weeks. In an interesting study on green peas and wheat, Haid and Huprikar (2001) illustrated that giving water treated with meditation of either stimulating or inhibiting intents significantly influenced the germination and growth of the plants. Yan et al. (1999) clearly showed that the molecular composition of targeted materials (non-living matter) could be significantly affected by external Qi emitted from a Qigong master either on-site or from a long distance.

In the current study, the biological effects of psychosomatic power were investigated on human prostate cancer PC3 cells treated by Mr. Hwang Ming Liang (known as Zen Master Wu Chueh Miao Tien, the 85th patriarch of Zen-Buddhism Sect). The purpose of this paper is not to compare the healing power emitted by Zen meditation and other psychosomatic practitioners. Instead, more evidence is gathered to demonstrate the potential health benefits of practicing different psychosomatic techniques.

Materials and Methods

Treatment of Cancer Cells with Psychosomatic Power

The objects (the cells in the plates) were treated with the psychosomatic power emitted by Master Wu Chueh Miao Tien. The cell plates were placed on a table in a temperature-controlled room (25[degrees]C). The psychosomatic power was emitted
from the right hand of the Master. He opened his palm and placed it above the capped plates. The distance between the plates and the hand was around 30 cm. The duration of the emission was 1 minute for all the experiments. The experiments for the three investigations reported herein were repeated on two separate days.

Cell Culture and Growth Assay

Androgen-independent PC3 human prostate cancer cell line was purchased from American Type Culture Collection (ATCC) and maintained in RPMI 1640 culture medium (GibcoBRL, Gaithersburg, MI) containing 10% fetal bovine serum, 100 U/ml penicillin and streptomycin, as the complete culture medium. One day before the experiment, 5 x [10.sup.3] cells per well were seeded in 96-well plates and incubated in a 5% C[O.sub.2] incubator at 37[degrees]C overnight. The cultures were treated with the psychosomatic power for one minute, while the control cultures were placed at least 3 m away from the control cultures in the same room. Mitochondrial metabolism was measured as a marker for cell growth by adding 50 [micro]l/well 3-[4,5-dimethlthiazol-2-yl]2,5-diphenyl-tetrazolium bromide (MTT) (5mg/ml in medium) with a 3-hour incubation at 37[degrees]C before adding lysis buffer (1% SDS in 0.1 M HCl). Spectrophotometric analyses were carried out using an enzyme-linked immunosorbent assay (ELISA) reader (Titertek Multiskan) at 570 nm.

Differentiation Assay

The activity of prostatic acid phosphatase (PAcP) was measured as a differentiation marker for prostate cells. Briefly, 48 hours after the application of psychosomatic power, the cells were rinsed with sterilized phosphate buffer saline and lysed in acetate buffer (pH 5.5) containing 1% triton-X 100 and various protease inhibitors. After sonication and centrifugation, the protein concentration in the cell lysates was determined by the Bio-Rad dye protein assay using bovine serum albumin as a standard. All the lysates were adjusted to 1 mg/ml. PAcP activity was quantified by determining the absorbance of released p-nitrophenol at 410 nm using p-nitrophényl phosphate as the substrate in 200 [micro]g protein lysate.

Anchorage Dependence Assay

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