

(57) Abstract

A high intensity focused ultrasound system for scanning and treating tumor, comprising a combined probe, a power source, a B-mode ultrasound scanner, a multi-dimensional digit-controlled motional apparatus, a vacuum degassor apparatus, a therapeutic bed, and a computer. The combined probe comprises a B- mode ultrasound probe and a therapeutic head which generates therapeutic focused ultrasound; its ultrasound-emitting end is mounted on the multi-dimensional motional apparatus, and the motional apparatus carries out scanning movement outside the body under the control of the computer, causing the high sound intensity focal region (space-point) generated by the therapeutic head to carry out scanning movement within the body. By the action of high sound intensity, the temperature of the tissues in the focal region instantaneously rises to over 70 degrees centigrade and the tissues are affected by the mechanical action of cavitation, so degeneration and necrosis occur. In this way the tumor within the body is treated by means of the scanning outside the body.