Abstracts

Techniques for Heating Brain Tumors with Implanted Microwave Antennas

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Microwave antennas are inserted into an array of nylon catheters implanted in brain tumors and apply a localized heat treatment to raise the tumor to 43°C. Flexible antennas of various designs have been used such as dipole, choke dipole, modified dipole and helical designs. Phase shifting and phase rotation techniques have been incorporated into the treatment system to steer power in the tumor, as predicted by computer rnodelling. Choke antennas counter the sensitivity of dipole antennas to insertion length. Clinical results are discussed with the different antenna designs.

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