

Abstract

Iman Galal Mahumod Ibrahim

Applicator design considerations of microwave tumor ablation

Tissue ablation is an image guided treatment option that selectively kills tumor cells by changing its temperature in such level that causes instantaneous cell death. This article provides an overview of the principles of microwave tissue heating and outlines design considerations for future research in microwave applicator designs. This research investigates new designs which are currently under test to achieve more compact antenna designs using different matching techniques to minimize as much reflection as possible, provide antenna designs more suitable for percutaneous treatment application and solve the overheating problem accompanied with microwave ablation therapy.