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Soggetti	Interventional radiology Surgical oncology Radiotherapy Radiology Interventional Radiology Surgical Oncology Diagnostic Radiology
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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Introduction: History of image-guided tumor ablation -- History of electroporation. Preclinical Research: Multi-scale biophysical principles in clinical irreversible electroporation -- Numerical modelling for prediction and evaluation of treatment outcome -- The effect of irreversible electroporation on blood vessels, bile ducts, urinary tract, intestines and nerves. Technique, tips and tricks: Anaesthetic management during irreversible electroporation procedure -- Complications and procedures to enhance safety -- Treatment planning, needle insertion, image-guidance, endpoint Assessment -- Thermal effects of irreversible electroporation -- Clinical practice: Irreversible electroporation of liver tumors -- Irreversible electroporation of pancreatic tumors -- Irreversible electroporation for perihilar cholangiocarcinoma (Klatskin tumors) -- Irreversible electroporation of kidney tumors -- Irreversible Electroporation of Prostate Tumors -- Irreversible electroporation of tumors within the

pelvic cavity -- Irreversible Electroporation of Lung Tumors -- Future perspectives: From local to systemic treatment: leveraging antitumor immunity following irreversible electroporation -- Future perspectives of IRE.

Sommario/riassunto

This book provides a comprehensive overview of the clinical use of irreversible electroporation (IRE) – better known by its commercial name, NanoKnife – which is one of the most exciting new needle-guided cancer treatments. The coverage includes the history of IRE, general technique, preclinical research, applications in clinical practice and early clinical results, and future perspectives. Contraindications, treatment planning, potential complications, follow-up imaging, and other practical aspects are fully discussed, with highlighting of useful tips and tricks. Through the delivery of short but highly intense electrical pulses, IRE results in tumor cell membrane permeabilization, causing cells to go into apoptosis. The minimally invasive nature of IRE, combined with the prospect of completely eradicating tumors while preserving delicate structures in the ablation zone, makes IRE the object of worldwide clinical research. This book will be of value for practitioners and trainees in interventional and diagnostic radiology, surgery, medical oncology, HPB and gastroenterology, urology, and radiation oncology.
