

1. Record Nr.	UNINA9910874667903321
Autore	Rezaei Nima
Titolo	Breast Cancer Treatment : an interdisciplinary approach // Nima Rezaei, editor
Pubbl/distr/stampa	Cham : , : Springer International Publishing AG, , 2024 ©2024
ISBN	9783031658273 9783031658266
Edizione	[1st ed.]
Descrizione fisica	1 online resource (445 pages)
Collana	Interdisciplinary Cancer Research Series ; ; v.7
Soggetti	Breast Neoplasms - therapy
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Preface -- Contents -- About the Editor -- Signal Transducer and Activator of Transcription as a Potential Therapeutic Target in Breast Cancer -- 1 Introduction -- 2 STAT Family Members Characteristics, Activation, and Functional Development -- 2.1 STAT Family Members Expression and Activity in Breast Cancer -- 2.2 STAT1 and Breast Cancer -- 2.3 STAT2 and Breast Cancer -- 2.4 STAT3 and Breast Cancer -- 2.5 STAT4 and Breast Cancer -- 2.6 STAT5a/b and Breast Cancer -- 2.7 STAT6 and Breast Cancer -- 2.8 ER+ Breast Cancer Subtypes and STAT Signaling -- 2.9 HER2/Neu + Breast Cancer and STAT Signaling -- 2.10 TNBC and STAT Signaling -- 3 STAT Proteins: The Promising Targets in the Treatment of Breast Cancer -- 4 Conclusion -- References -- Triple-Negative Breast Cancer Therapy: Recent Advances, Challenges, and Future Perspective -- 1 Introduction -- 2 Predictive Biomarkers, TILs, Genes and Their Roles in TNBC -- 3 Drug Resistance in TNBC -- 4 Systemic Therapy in TNBC -- 5 siRNA Therapy in TNBC -- 6 Conclusion -- References -- Advances in Local Ablative Techniques for Breast Cancer -- 1 Introduction -- 2 Overview of Local Ablative Techniques in Breast Cancer Management -- 3 Localization Techniques -- 4 Ablative Treatment Modalities for Curative Intent -- 4.1 Cryotherapy -- 4.2 Radiofrequency Ablation (RFA) in Breast Cancer Management -- 4.3 High-Intensity Focused Ultrasound (HIFU) -- 4.4 Microwave Ablation -- 4.5 Laser Therapy in Breast Cancer

Management -- 5 Ablative Surgery in Palliative Settings -- 5.1 Local Therapy -- 5.2 Ablative Therapies Toward Metastatic Lesion(s) -- 5.2.1 Bone -- 5.2.2 Liver -- 5.2.3 Lung -- 5.2.4 Others -- 6 Conclusion -- References -- Radiotherapy in Breast Cancer -- 1 Introduction -- 2 History -- 3 Overview of Breast Cancer -- 3.1 Types -- 3.2 Breast Cancer Subtypes -- 3.2.1 Hormone Receptor-Positive Breast Cancer. 3.2.2 HER2-Positive Breast Cancer -- 3.2.3 Triple-Negative Breast Cancer -- 3.3 Risk Factors and Etiology -- 3.4 Pathophysiology -- 3.5 Signs and Symptoms -- 3.6 Diagnosis -- 3.7 Staging -- 3.8 Prognosis -- 4 Types of Radiation Therapy -- 5 Uses of Radiotherapy in Breast Cancer -- 6 Brachytherapy -- 7 Combination Therapy and Management of Breast Cancer -- 7.1 Chemotherapy -- 7.2 Targeted Therapy -- 7.3 Management of Non-invasive (In Situ) Breast Cancer -- 7.4 Management of Early Invasive Breast Cancer -- 7.5 Loco-Regional Radiotherapy -- 7.6 Axillary Radiotherapy -- 8 Adverse Effects of Radiation Therapy -- 9 Conclusion -- References -- Percutaneous Breast Cancer Treatment -- 1 Introduction -- 2 Cryoablation -- 3 Radiofrequency Ablation -- 4 Microwave Ablation -- 5 High-Intensity Focused Ultrasound (HIFU) -- 6 Laser Ablation -- 7 Conclusion -- References -- Revolutionizing Breast Cancer Care: Cutting-Edge Breakthroughs and Future Frontiers in Precision Medicine -- 1 Introduction -- 2 Targeted Therapies -- 2.1 Hormone Receptor-Targeted Therapies -- 2.2 HER2-Targeted Therapies -- 2.3 Cell Cycle-Targeted Therapies -- 3 Immunotherapy -- 3.1 Immune Checkpoint Inhibitors -- 3.2 Cancer Vaccines -- 4 Precision Medicine -- 5 Other Emerging Therapies -- 5.1 Oncolytic Viruses -- 5.2 PARP Inhibitors -- 6 Personalized Treatment Approaches -- 6.1 Integration of Genomic and Clinical Data -- 6.2 Development of Decision Support Tools -- 7 Nanotechnology in Breast Cancer Treatment -- 7.1 Folic Acid-Engineered Nanocarriers -- 7.2 Antineoplastic Biogenic Gold Nanoparticles -- 7.3 Lipid-Based Nanoparticles (LNPs) -- 7.4 Curcumin Nanoparticles -- 7.5 Antibody-Conjugated Polymeric Nanoparticles -- 8 Other Treatment Strategies -- 8.1 Liquid Biopsies -- 8.2 Artificial Intelligence -- 9 Role of Modern Bioinformatics in the Treatment of Breast Cancer. 10 Role of CRISPR Gene Editing in Treating Breast Cancer -- 11 Conclusion -- References -- Updates on the Management of Ductal Carcinoma In Situ of the Breasts -- 1 Introduction -- 2 Breast Cancer Screening and Diagnosis of DCIS -- 3 Classification Systems of DCIS -- 4 Challenges in Histopathological Diagnosis -- 5 Paradigm Change of the Current Standard of Care -- 6 Treating DCIS or Treating Patients with DCIS? -- 7 Clinical Factors to Be Considered When Treating Low-Risk DCIS -- 8 Conclusion -- References -- Nanostructured Lipid Carrier as a Strategy for the Treatment of Breast Cancer -- 1 Introduction -- 2 Conventional Treatment of Breast Cancer -- 2.1 Lipidic Nanoparticle as a Strategy for the Treatment of Breast Cancer -- 2.2 Nanostructured Lipid Carriers as a Strategy for the Treatment of Breast Cancer -- 3 Cancer Drug-Loaded NLC -- 3.1 Anthracycline-Loaded NLC as a Strategy for the Treatment of Breast Cancer -- 3.2 Taxane-Loaded NLC as a Strategy for the Treatment of Breast Cancer -- 3.3 Antagonist of Estrogen Receptor-Loaded NLC as a Strategy for the Treatment of Breast Cancer -- 3.4 HIT, LEAD, or Drug Candidate-Loaded NLC as a Strategy for the Treatment of Breast Cancer -- 3.5 Multidrug-Loaded NLC as a Strategy for the Treatment of Breast Cancer -- 3.6 Developing Theory -- 3.7 Stimuli-Responsive NLC as a Strategy for the Treatment of Breast Cancer -- 4 New Trends: Functionalized CLN -- 5 Conclusion -- References -- Managing Breast Cancer Using the Cell-Surface GRP78 -- 1 Introduction -- 1.1 Targeting GRP78 for

Early Detection and Diagnosis -- 1.2 Modulating GRP78 Expression for Therapeutic Intervention -- 1.3 GRP78 as a Prognostic Indicator and Monitoring Tool -- 1.4 GRP78 Mediates Cell Survival and Apoptosis -- 1.5 Challenges and Future Prospects -- 2 Conclusion -- References.

A Hormone Immunotherapy (HIT) Combination in Advanced Breast Cancer -- 1 Introduction -- 2 Current Guidelines for HT, IT, and Their Combination in Advanced Breast Cancer -- 2.1 Systemic Therapy in the Adjuvant Setting (Table 1) -- 2.2 Systemic Therapy in Locoregional Recurrent or Stage IV (M1) Breast Cancer (Table 2) -- 3 Experimental Studies Suggest a Close Relationship Between Tumor Growth and the G0-G1 State and Immune Evasion -- 3.1 Tumor Growth and Immune Evasion -- 3.2 G0-G1 State and Immunosuppressive TME Reversion Induced by Antiestrogens -- 4 Usefulness of Maintenance IT in Patients Showing Clinical Benefit During Conventional CT or with Minimal Residual Disease (M... -- 5 A Prolonged Antiestrogen-Induced G0-G1 State Concomitant with an Increased Cytotoxic Immune Response During a New Schedule o... -- 6 The Potential Rationale of a New HIT Schedule -- 7 Conclusion -- References --

Discovering New Targets in Triple-Negative Breast Cancer (TNBC): The Androgen Receptor and the Estrogen Receptor -- 1 Introduction -- 2 Triple-Negative Breast Cancer -- 2.1 TNBC Therapies -- 2.2 Targeted Therapies -- 2.3 Immunotherapy -- 2.4 AR in Triple-Negative Breast Cancer -- 2.4.1 AR: Structure and Function -- 2.4.2 AR in Breast Cancer: An Overview -- 2.4.3 The Role of AR in TNBC -- 2.4.4 Androgen Targeted Therapies -- 2.5 Estrogen Receptor in Triple-Negative Breast Cancer -- 2.5.1 Estrogen Receptor : Generalities -- 2.5.2 The Role of ER in BC: An Overview -- 2.5.3 The Role of ER in Triple-Negative Breast Cancer -- 2.5.4 Estrogen Receptor Targeted Therapy in TNBC -- 3 Concluding Remarks -- References --

Growth Factor Receptor Implications in Breast Cancer: Prospects for Their Molecular Transactivation in the Future and Obstacle... -- 1 Introduction -- 1.1 Incidence -- 1.2 Risk Factors -- 2 Definition and Molecular Classification of BC. 2.1 BC Classification -- 2.2 Histological Subtypes -- 2.3 Molecular Subtypes -- 2.4 Estrogen Receptor (ER) -- 2.5 Nuclear ER -- 2.6 Membranal ER -- 2.7 Relationship Between ER and HER2 -- 3 Receptor Tyrosine Kinases -- 3.1 Structure and Classification -- 3.2 Role of Receptor Tyrosine Kinase (RTK) Signaling in BC Progression: MAPKs and PI3K/Akt Signaling Pathways -- 3.2.1 Signaling Pathways -- 3.2.2 Mitogen-Activated Protein Kinase Pathway (MAPK) -- 3.2.3 ERK Cascade -- 3.2.4 JNK Cascade -- 3.2.5 p38 Cascade -- 3.2.6 Phosphoinositide 3-Kinase/Akt Pathway (PI3K/Akt) -- 3.2.7 Janus Kinase/Signal Transducer and Activator of Transcription Pathway (JAK/STAT) -- 3.2.8 Notch Signaling Pathway -- 3.2.9 Nuclear Factor-Kappa B Pathway (NF-B) -- 3.2.10 Src Family Kinases -- 4 Participation of Specific RTKs in BC -- 4.1 RTKs and BC -- 4.2 Role of Epidermal Growth Factor Receptor (EGFR) in BC -- 4.3 Role of HER2 in BC -- 4.4 Role of Insulin Receptor (IR) in BC -- 4.5 Role of Insulin-Like Growth Factor Receptor Type 1 (IGF-1R) in BC -- 4.6 Role of Vascular Endothelial Growth Factor Receptor (VEGR) in BC -- 4.7 Role of Platelet-Derived Growth Factor Receptor (PDGFR) in BC -- 4.8 Role of Fibroblast Growth Factor Receptor (FGFR) in BC -- 4.9 Role of Hepatocyte Growth Factor (HGF)/MET Receptor in BC -- 5 RTK Transactivation by GPCRS and Nuclear Receptors -- 5.1 GPCRS -- 5.2 GPCR-Mediated Transactivation of RTKs -- 5.3 GPCRS in Cancer and BC -- 5.4 RTK Transactivation by Specific GPCRS in BC -- 5.4.1 Estrogens/GPER1 -- 5.4.2 Chemokine Receptors -- 5.4.3 Cannabinoid Receptor 2 -- 5.4.4 Lysophosphatidic Acid (LPA) Receptors (LPARs) -- 5.4.5 Protease-Activated Receptors -- 6 Blocking GPCRS-RTKs Transactivation,

Therapeutic Strategies with a Clinical Approach -- References --
Addressing ESR1 Mutation: A Key Factor in Hormone Therapy
Resistance in Breast Cancer.
1 Introduction.
