

1. Record Nr.	UNINA9910637722803321
Titolo	Fundamentals in gynaecologic malignancy // edited by Amal Chandra Katak and Debabrata Barmon
Pubbl/distr/stampa	Singapore : , : Springer, , [2022] ©2022
ISBN	981-19-5860-2
Descrizione fisica	1 online resource (486 pages)
Disciplina	306.47
Soggetti	Generative organs, Female - Cancer Genital Neoplasms, Female
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Contents -- Epidemiology of Gynaecological Cancers -- 1 Carcinoma Cervix -- 2 Carcinoma Ovary -- 3 Carcinoma Corpus Uteri -- 4 Carcinoma Vulva -- 5 Carcinoma Vagina -- 6 Gestational Trophoblastic Disease -- 7 Conclusion -- References -- Molecular Profiling of Gynaecological Cancer and Breast Cancer -- 1 Introduction -- 2 Molecular Profiling Techniques -- 2.1 Polymerase Chain Reaction (PCR) -- 2.2 Real-Time PCR -- 2.3 Droplet Digital PCR (ddPCR) -- 2.4 Next-Generation Sequencing (NGS) -- 2.5 NGS Workflow -- 2.5.1 PCR Amplification -- 2.5.2 Massive Parallel Sequencing -- 2.5.3 Sequencing Data Analysis -- 3 Criteria for Evidence-Based Classification of Molecular Biomarkers -- 4 Microsatellite Instability-High Tumours and DNA Mismatch Repair Molecular Biomarkers -- 5 Germline Mutations Molecular Biomarkers -- 6 Molecular Profile of Gynaecologic Cancers -- 6.1 Endometrial Cancers Molecular Profile -- 6.2 Ovarian Cancers Molecular Profile -- 6.3 Cervical Cancers Molecular Profile -- 6.4 Breast Cancer Molecular Profile -- 7 Oncology Basket Trials and Precision Medicine -- 8 Multiomics and Systems Medicine Approach in Gynaecological Cancer and Breast Cancer -- 8.1 MultiOmics Studies on Breast Cancer (BRCA) -- 8.2 MultiOmics Studies on Gynaecological Cancer -- 9 Challenges of Molecular Profiling of Cancer -- 9.1 Lack of Randomized, Controlled Clinical Trials -- 9.2 Unavailability to Suitable Molecular Target Drugs -- 9.3 Challenge

of Tumour Heterogeneity -- 9.4 Molecular Profiling Platform Variations -- 9.5 Challenges of Quality Control Measures for Molecular Profiling -- 9.6 Appropriate Condition for Molecular Profiling of Cancer -- 10 Future Perspective -- References -- Tumour Biomarkers in Gynaecologic Oncology -- 1 Introduction -- 2 Tumour Markers in Gynaecological Cancers. 3 Tumour Biomarkers in Ovarian Malignancies -- 3.1 Epithelial Ovarian Cancers -- 3.1.1 Carbohydrate Antigen or Carcinoma Antigen (CA125) -- 3.1.2 CA125 as Screening Marker for Ovarian Cancers -- 3.1.3 CA125 as Marker for Disease Monitoring in Ovarian Cancers -- 3.1.4 CA125 as Prognostic Marker in Ovarian Cancers -- 3.1.5 Human Epididymis Protein 4 (HE4) -- 3.1.6 Evaluation of Women with Pelvic Masses -- 3.1.7 Risk of malignancy index (RMI) -- 3.1.8 Risk of Ovarian Malignancy Algorithm (ROMA) -- 3.1.9 OVA1 Test -- 3.1.10 Carcinoembryonic Antigen (CEA) -- 3.1.11 Cancer Antigen 19-9 (CA 19-9) -- 3.2 Markers of Non-epithelial Ovarian Cancers (Non-EOC) -- 3.2.1 Human Chorionic Gonadotropin (hCG) -- 3.2.2 Serum Alpha-Fetoprotein (sAFP) -- 3.2.3 Inhibin and Activin -- 3.2.4 Osteopontin (OPN) -- 3.2.5 Kallikreins (KLK) -- 3.2.6 Bikunin -- 3.2.7 Mesothelin -- 3.2.8 Vascular Endothelial Growth Factor (VEGF) -- 3.2.9 Human Prostatin (PSN) -- 3.2.10 Apolipoprotein A-I (apoA-I) -- 3.2.11 Transthyretin (TTR) -- 3.2.12 Transferrin -- 3.2.13 Creatine Kinase B (CKB) -- 3.2.14 Lysophosphatidic Acid (LPA) -- 4 Cervical Cancer -- 4.1 Squamous Cell Carcinoma Antigen (SCC-Ag) -- 4.2 CYFRA 21-1 -- 5 Endometrial Cancer -- 6 Vulval Cancer -- References -- Cancer: Infection and Vaccines -- 1 Introduction -- 2 Mechanism of Action -- 3 Oncogenic Viruses -- 3.1 Papillomaviruses -- 3.2 Polyomaviruses -- 3.3 Epstein-Barr Virus (Human Herpesvirus 4 or HHV4) -- 3.4 Kaposi Sarcoma Herpesvirus (KSHV or Human Herpesvirus 8 or HHV8) -- 3.5 Retroviruses -- 3.6 Hepatitis Viruses -- 4 Oncogenic Bacteria -- 4.1 Helicobacter pylori -- 5 Parasites Causing Cancer -- 5.1 Schistosoma haematobium -- 5.2 Opisthorchis viverrini and Clonorchis sinensis -- 6 The Microbiome and Carcinogenesis -- 7 Infection Control and Prevention in Cancer Patients. 7.1 Hygiene -- 7.2 Device Associated Infection -- 7.3 Environmental Hygiene -- 7.4 Education and Awareness of Health Care Personals -- 8 Cancer Vaccines -- 8.1 Hepatitis B Vaccines -- 8.2 Human Papillomavirus Vaccines (HPV Vaccines) -- 9 Therapeutic Vaccines -- 9.1 Bacillus Calmette Guerin (BCG) -- 9.2 Sipuleucel-T -- 9.3 Talimogene Laherparepvec (T-VEC) -- 10 Conclusion -- References -- Imaging in Gynaecological Malignancies -- 1 Ultrasound -- 2 Computed Tomography (CT) -- 3 Magnetic Resonance Imaging (MRI) -- 4 PET-CT -- 5 Cervical Cancer -- 6 Endometrial Cancer -- 7 Ovarian Cancer -- 8 Vaginal Cancer -- 9 Vulval Malignancies -- 10 Leiomyosarcoma -- 11 Gestational Trophoblastic Neoplasia (GTN) -- 12 Imaging Nodal Disease (N-Staging) -- 13 Imaging Metastatic Spread (M-Staging) -- 14 Image-Guided Biopsy -- 15 Conclusions -- References -- Principles and Practice of Surgery in Gynaecological Cancer -- 1 Introduction -- 2 History -- 3 Roles of a Surgical Oncologist -- 4 Diagnosis and Staging -- 5 Curative Surgery -- 5.1 Surgery for Primary Cancer -- 5.2 Surgery for Metastatic Disease -- 5.3 Palliative Surgery -- 5.4 Preventive or Prophylactic Surgery -- 6 Conclusion -- References -- Principles of Chemotherapy, Targeted Therapy, and Immunotherapy in Gynaecological Malignancies -- 1 Introduction -- 2 Basic Principles -- 3 Growth of Tumour Cell -- 4 Log Kill Hypothesis -- 5 Resistance to Chemotherapy -- 6 Dose Intensity -- 7 Single Versus Combination Therapy -- 8 Different Chemotherapy Types -- 9 Routes of Administration -- 10

Chemotherapeutic Drugs Used in the Treatment of Gynaecological Cancer -- 10.1 Alkylating Agents -- 10.2 Platinum -- 10.3 Anti-tumour Antibiotics and Anthracyclines -- 10.4 Antimetabolites -- 10.5 Vinca Alkaloids -- 10.6 Topoisomerase Inhibitors -- 10.7 Taxanes.

11 Targeted Therapies -- 11.1 Mechanisms of Action -- 11.2 Interruption of Signal Transduction Pathways -- 11.3 Induction of Apoptosis -- 11.4 Stimulation of the Immune Response -- 11.5 PI3K/mTOR/Akt Pathway -- 11.6 Poly(ADP-Ribose) Pathway -- 11.7 Principles of Immunotherapy -- 11.7.1 Tumour Immunobiology and Immunotherapy -- 12 Clinical Practice in Gynaecologic Oncology -- 12.1 Suitability for Immunotherapy -- 12.2 Antibodies Used as Immunogens -- 12.3 Cancer-Testis Antigen Vaccines -- 12.4 Dendritic Cell-Based Vaccines -- 12.5 Vaccines Designed to Generate Antibody Responses -- 12.6 Adoptive Cellular Therapy -- 12.7 Whole Tumour Antigen Vaccines -- 12.8 Immune Checkpoint Inhibitors -- 12.9 Immune Checkpoint Blockade Therapy in Endometrial Cancer -- 12.10 Immune Checkpoint Blockade Therapy in Cervical Cancer --

References -- Principles and Practice of Radiation Oncology -- 1 Introduction -- 2 Timeline of Radiation Therapy (RT) -- 3 Effects of Radiation Interaction -- 3.1 Interaction of Photons with Matter -- 3.2 Interaction of Charged Particles with Matter -- 3.2.1 Bragg Curve -- 3.2.2 Bremsstrahlung -- 3.3 Interaction of Neutron with Matter -- 4 Biological Basis of Radiation Therapy -- 5 External Beam Therapy (EBRT) -- 5.1 EBRT Treatment Machines -- 5.2 Steps of Radiation Treatment Planning -- 5.2.1 Patient Selection -- 5.2.2 Patient Simulation -- 5.3 Treatment Techniques of Radiation Therapy -- 5.3.1 Conventional Technique -- Limitation of Conventional Planning -- 5.3.2 Three-Dimensional Conformal Radiation Therapy (3DCRT) -- 5.3.3 Intensity-Modulated Radiation Therapy (IMRT) -- 5.3.4 Arc Radiation Therapy -- 5.3.5 Stereotactic Techniques -- 6 Image-Guided Radiation Therapy (IGRT) -- 7 Advances 4D Radiation Therapy -- 7.1 Imaging -- 7.2 Radiation Therapy -- 7.3 Electron Beam Therapy.

7.4 Heavy Particle Therapy -- 8 Brachytherapy -- 8.1 Role Brachytherapy in Gynaecological Cancer -- 8.2 2D Image-Based Intracavity Brachytherapy -- 8.3 3D Image-Based Intracavity Brachytherapy -- 9 Radiation Dosimetry in Radiation Therapy -- 10 The Implication of Quality Assurance (QA) in RT -- 11 Radiation Protection -- 11.1 Classified Radiation Workers -- 11.2 Pregnant Radiation Worker -- 11.3 Apprentices and Trainee -- References --

Benign Breast Diseases -- 1 Introduction -- 2 Spectrum of Benign Breast Diseases -- 3 Approach to a Patient with Breast Disease -- 4 Investigations -- 4.1 Ultrasound (US) -- 4.2 Mammography -- 4.3 Magnetic Resonance Imaging (MRI) -- 4.4 Fine-Needle Aspiration Cytology (FNAC) -- 4.5 Core Needle Biopsy -- 4.6 Incision Biopsy -- 4.7 Excision Biopsy -- 5 Classification of Benign Breast Lesions -- 5.1 Breast Cysts -- 5.2 Galactocele -- 5.3 Usual Ductal Hyperplasia -- 5.4 Intraductal Papillomas -- 5.5 Diffuse Papillomatosis (Multiple Papillomas) -- 5.6 Juvenile Papillomatosis -- 5.7 Sclerosing Adenosis -- 5.8 Radial Scars (Complex Sclerosing Lesions) -- 5.9 Galactorrhoea -- 5.10 Periductal Mastitis and Ductal Ectasia -- 5.11 Infective Conditions of the Breast -- 5.12 Mastalgia -- 5.13 Mondor's Disease [49] -- 5.14 Traumatic Fat Necrosis [50] -- 5.15 Gynecomastia -- 6 Benign Proliferative Stromal Lesions -- 6.1 Diabetic Fibrous Mastopathy -- 6.2 Pseudoangiomatous Stromal Hyperplasia of the Breast -- 7 Benign Neoplasms -- 7.1 Fibroadenoma -- 7.2 Lipoma -- 7.3 Tubular Adenoma -- 7.4 Hamartoma -- 7.5 Granular Cell Tumour -- 7.6 Phyllodes Tumour -- 8 Conclusion -- References

-- Breast Cancer -- 1 Incidence and Etiology -- 2 Risk Factors
for Breast Cancer -- 2.1 Breast Pathology -- 2.2 Other Hormonal
Factors -- 2.3 Reproductive Factors -- 2.4 History of Breast Cancer.
2.5 Lifestyle Factors.
