

1. Record Nr.	UNINA9910491028203321
Titolo	Atlas of clinical PET-CT in treatment response evaluation in oncology / / Stefano Fanti, Gopinath Gnanasegaran, Ignasi Carrio, editors
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-68858-5
Descrizione fisica	1 online resource (483 pages)
Disciplina	616.99407575
Soggetti	Cancer - Tomography Quimioteràpia del càncer Radioteràpia Tomografia per emissió de positrons Llibres electrònics Atles (Científic)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Contents -- List of Contributors -- Part I: Therapy Response Evaluation: Science and Practice -- 1: Treatment Response Evaluation: Science and Practice -- 1.1 Introduction -- 1.2 Criteria for Evaluating Response -- 1.3 Traditional Response Criteria -- 1.4 Incorporation of Molecular Imaging into Response Criteria -- 1.5 Response Criteria and Immunotherapy -- 1.6 Practical Considerations -- References -- 2: CT in Treatment Response Assessment in Oncology -- 2.1 Introduction -- 2.2 Current Response Assessment Criteria for Chemotherapy and Targeted Therapies -- 2.3 Pitfalls of RECIST 1.1 -- 2.4 mRECIST in HCC -- 2.5 Lugano Classification in Lymphoma -- 2.6 Response Assessment Criteria in Immunotherapy -- 2.7 Conclusion -- References -- 3: MRI and Diffusion-Weighted MRI in Treatment Response Evaluation Overview -- 3.1 Introduction -- 3.2 Response Evaluation by Tumour Burden or Anatomical Parameters -- 3.2.1 WHO and RECIST Criteria -- 3.2.2 iRECIST -- 3.2.3 Other Response Evaluation by Anatomical MRI in Specific Disease Contexts -- 3.2.3.1 Brain Tumour -- 3.2.3.2 Hepatocellular Carcinoma (HCC) --

3.2.3.3 Rectal Cancer -- 3.3 Response Evaluation with Diffusion-Weighted Imaging (DWI) -- 3.4 Conclusion -- References -- 4: PET and PET-CT in Treatment Response Evaluation: Overview -- 4.1 Introduction: Why Is Tumor Response Assessed by Imaging? -- 4.2 Assessment of Tumor Response: When and How? -- 4.2.1 Response Assessment by FDG PET -- 4.2.1.1 Response Assessment in Lymphoma -- 4.2.2 Response Assessment with Other PET Imaging Agents -- 4.2.3 Timing of Response Assessment -- 4.3 Responders vs. Nonresponders -- 4.4 Management and Type of Treatment -- 4.5 Common Patterns, Pitfalls, Variants, Advantages, and Limitations -- 4.5.1 Standardized Imaging Protocol -- 4.5.2 Impact of Therapy on FDG Metabolism. 4.5.3 Radiation Therapy -- 4.5.4 Immunotherapy -- 4.5.5 Clinical Image Interpretation -- References -- 5: Conventional Radiological Techniques and PET-CT in Treatment Response Evaluation in Postsurgical Setting -- 5.1 Introduction -- 5.2 Computed Tomography (CT) -- 5.3 Magnetic Resonance Imaging (MRI) -- 5.4 Positron Emission Tomography (PET) -- 5.5 Other Radiotracers (Neuroendocrine Tumors, Prostate Cancer) -- 5.6 Conclusion -- References -- 6: Conventional Radiological and PET-CT Assessment of Treatment Response Evaluation in Chemotherapy Setting -- 6.1 Introduction -- 6.2 Conventional Radiological Techniques -- 6.3 PET/CT in Response Assessment to Chemotherapy -- 6.3.1 EORTC -- 6.3.2 IHP Criteria for Lymphoma -- 6.3.3 Deauville Criteria for Lymphoma -- 6.3.4 PERCIST -- 6.4 MRI and CT in Response Assessment to Chemotherapy -- 6.5 Evaluation of Response to Chemotherapy in Individual Tumours -- 6.5.1 Oesophageal and Gastric Cancer -- 6.5.2 Colorectal Cancer -- 6.5.3 Hepatocellular Carcinoma -- 6.5.4 Pancreatic Cancer -- 6.5.5 Lung Cancer -- 6.5.6 Lymphoma -- 6.5.7 Head and Neck Cancer -- 6.5.8 Breast Cancer -- 6.5.9 Other Tumours -- 6.6 Conclusion -- References -- 7: Conventional Radiological Techniques and PET-CT in Treatment Response Evaluation in Post-Radiotherapy Setting -- 7.1 Introduction -- 7.2 Functional Imaging for Disease Response Assessment to Radiotherapy -- 7.2.1 Functional, Metabolic PET Imaging -- 7.2.1.1 Glucose Metabolism -- 7.2.1.2 Tumor Hypoxia -- 7.2.1.3 Tumor Cell Proliferation -- 7.2.1.4 Apoptosis -- 7.2.1.5 Amino Acid Transport and Protein Synthesis -- 7.2.1.6 Cell Membrane Synthesis -- 7.2.1.7 Epidermal Growth Factor Receptor Status -- 7.2.2 Functional MR Imaging Techniques -- 7.2.2.1 Dynamic Contrast-Enhanced MR Imaging -- 7.2.2.2 Diffusion-Weighted MR Imaging -- 7.2.2.3 BOLD Imaging. 7.2.2.4 MR Spectroscopy -- 7.2.3 Functional Imaging with Perfusion CT -- 7.2.4 Emerging Integrated Hybrid Imaging Techniques -- 7.2.4.1 Integrated PET/CT Perfusion Imaging -- 7.2.4.2 Integrated PET-MR Imaging -- 7.3 Assessment of Treatment Response After Radiotherapy -- 7.3.1 Anatomic Response Criteria (WHO, RECIST) -- 7.3.1.1 WHO Criteria -- 7.3.1.2 RECIST v1.1 -- 7.3.1.3 Limitations of Anatomic Response Criteria -- 7.3.2 Metabolic Response Criteria -- 7.3.2.1 Qualitative Assessment -- 7.3.2.2 Quantitative Assessment (PERCIST v1.0) -- 7.4 Current Uses of FDG PET/CT in Treatment Response Following Radiation Therapy -- 7.4.1 Head and Neck Cancer -- 7.4.2 Esophageal Carcinoma -- 7.4.3 Rectal Carcinoma -- 7.4.4 Brain Tumors -- 7.4.5 Cervical Carcinoma -- 7.4.6 Lung Carcinoma -- 7.4.7 Hepato-Pancreatico-Biliary Tumors, Particularly Pancreatic Carcinoma and Liver Metastases (Postselective Internal Radiotherapy Treatment) -- References -- 8: Conventional Radiological Techniques and PET-CT in Treatment Response Evaluation in Immunotherapy

Settings -- 8.1 Introduction -- 8.2 Management: Type of Treatments/Regimes -- 8.2.1 Melanoma -- 8.2.2 NSCLC -- 8.2.3 Other Solid Tumors -- 8.3 Pathophysiology -- 8.4 Assessment of Treatment Response -- 8.4.1 Anatomic Response Assessment -- 8.4.2 Metabolic Response Criteria -- 8.4.3 Responders Vs. Non-Responders -- 8.4.4 Pitfalls and beyond (Pseudo-, Hyper-Progression, irAEs, Brain Mets, Cost-Effectiveness) -- References -- 9: Treatment Response Evaluation of Bone Metastases Using 18F-NaF -- 9.1 Introduction -- 9.2 Management and Types of Treatments -- 9.2.1 Baseline 18F-Fluoride PET/CT -- 9.2.1.1 Prostate Cancer -- 9.2.1.2 Breast Cancer -- 9.2.1.3 Lung Cancer -- 9.2.1.4 Thyroid Cancer -- 9.2.1.5 Renal Cell Cancer. 9.3 Assessment of Treatment Response (Postsurgical, Post Chemotherapy, Post Radiotherapy, Neoadjuvant, and Immunotherapy Settings) -- 9.3.1 Interim 18F-Fluoride PET/CT -- 9.3.1.1 Prostate Cancer -- 9.3.1.2 Breast Cancer -- 9.3.2 Follow-Up 18F-Fluoride PET/CT -- 9.3.2.1 Prostate Cancer -- 9.3.2.2 Breast Cancer -- 9.3.2.3 Multiple Myeloma -- 9.3.2.4 Metastatic Primary Bone Tumors -- 9.3.3 Conclusions -- 9.4 Common Patterns, Pitfalls, Variants, Advantages, and Limitations -- References -- 10: Reporting Post-Therapy Scans -- 10.1 Introduction -- 10.2 Patient Preparation -- 10.3 Clinical Details -- 10.4 Questions to Ask Patient -- 10.5 When to Scan -- 10.6 What to Look for in the Scans -- 10.7 How to Describe, Report Post-Therapy Finding Scores, Criteria, etc. (Post-Surgical, Post-Chemotherapy, Post-Radiotherapy, and Post-Immunotherapy Settings) -- 10.8 Common and Less Common Findings -- 10.9 How to Interpret the Findings: Dos and Don'ts -- 10.9.1 What to Do -- 10.9.2 What Not to Do -- 10.10 What to Advise the Referrers -- References -- Part II: Therapy Response Evaluation: Clinical Atlas -- 11: 18F-FDG PET/CT in Treatment Response Evaluation in Head and Neck Cancer -- 11.1 Case 1 -- 11.2 Case 2 -- 11.3 Case 3 -- 11.4 Case 4 -- 11.5 Case 5 -- 11.6 Case 6 -- 11.7 Case 7 -- 11.8 Case 8 -- 11.9 Case 9 -- 11.10 Case 10 -- 11.11 Case 11 -- 11.12 Case 12 -- 11.13 Case 13 -- 11.14 Case 14 -- 11.15 Case 15 -- Suggested Reading -- Case 3 -- 12: PET/CT in Treatment Response Evaluation: Lung Cancer -- 12.1 Introduction -- References -- 13: 18F-FDG PET/CT and Non 18F-FDG-PET/CT in Treatment Response Evaluation in Neuro-Oncology -- 13.1 Introduction -- 13.2 PET Tracers Used in Neuro-Oncology -- 13.3 Case 1 -- 13.4 Case 2 -- 13.5 Case 3 -- 13.6 Case 4 -- 13.7 Case 5 -- 13.8 Case 6 -- 13.9 Case 7 -- 13.10 Case 8. 13.11 Case 9 -- 13.12 Case 10 -- 13.13 Case 11 -- 13.14 Case 12 -- 13.15 Case 13 -- 13.16 Case 14 -- 13.17 Case 15 -- References -- 14: PET/CT in the Assessment of Treatment Response in Hepatobiliary, Gall Bladder and Pancreatic Malignancies -- 14.1 Introduction -- 14.2 Case 1 -- 14.3 Case 2 -- 14.4 Case 3 -- 14.5 Case 4 -- 14.6 Case 5 -- 14.7 Case 6 -- 14.8 Case 7 -- 14.9 Case 8 -- 14.10 Case 9 -- 14.11 Case 10 -- 14.12 Case 11 -- 14.13 Case 12 -- 14.14 Case 13 -- 14.15 Case 14 -- 14.16 Case 15 -- 14.17 Case 16 -- 14.18 Case 17 -- 14.19 Case 18 -- Suggested Reading -- Introduction -- Case 1 -- Case 2 -- Case 3 -- Case 4 -- Case 6 -- Case 7 -- Case 8 -- Case 11 -- 15: 18F-FDG PET/CT in Treatment Response Evaluation: Gastroesophageal Cancer -- 15.1 Introduction -- 15.2 Case No. 1: Radiation-Induced Esophagitis -- 15.3 Case No. 2: Radiation-Induced Pneumonitis -- 15.4 Case No. 3: Post Transthoracic Esophagectomy (TTE) Appearance -- 15.5 Case No. 4: Aspiration Pneumonia -- 15.6 Case No. 5: Recurrent Aspiration Pneumonia -- 15.7 Case No. 6: Tracheoesophageal Fistula (TOF) -- 15.8 Case No. 7: Upper Esophageal Mass with Complete Response Post CRT -- 15.9

Case No. 8: Post CTRT Complete Response with Inflammatory Changes in the Esophagus -- 15.10 Case No. 9: Complete Response on PET/CT with Microscopic Residual Disease on Histopathology -- 15.11 Case No. 10: Posttreatment Changes Vs. Residual Disease -- 15.12 Case No. 11: Partial Response to Treatment -- 15.13 Case No. 12: Stable Disease with Radiation-Induced Esophagitis -- 15.14 Case No. 13: GE Junction Mass with Partial Response -- 15.15 Case No. 14: Complete Response -- 15.16 Case No. 15: Coexisting Malignancy and Granulomatous Infection -- 15.17 Case No. 16: Esophageal Primary with Coexisting Tuberculous Infection in the Lungs. 15.18 Case No. 17: GE Junction and Proximal Stomach Mass with Partial Response.
