Professional Master's Degree

Cancer of Unknown Primary

Endorsed by:

GETTHI

tech technological university

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Professional Master's Degree
Cancer of Unknown Primary

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Technological University**
- Dedication: **16h/week**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/pk/medicine/professional-master-degree/master-cancer-unknown-primary**

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01

Introduction

Low incidence cancers, among which we can find cancers of unknown primary and rare cancers, are of growing epidemiological, diagnostic and therapeutic interest, due to the constant increase in both their prevalence and treatment opportunities. With this program, TECH has brought together the most comprehensive information to specialize students in this very important sector for patients and oncology professionals, as well as contributing to specializing tomorrow's experts, whose research can contribute to advances in this medical field. In addition, this proposed curriculum has internationally renowned professionals who have contributed their knowledge and experience to provide students with the necessary tools on their way to professional excellence.

Advances in research are increasingly allowing these cancers to be treated successfully, achieving patient survival. Increase your skills in this field with TECH and achieve patient improvement"

The importance of researching cancers of unknown primary and rare cancers lies, on the one hand, in their paradoxically high frequency, taking the data as a whole. One in five tumors diagnosed every day is a rare tumor, which represents an important figure of 650,000 cases per year in the European Union and an incidence similar to that of colorectal cancer.

On the other hand, the mortality rate of these tumors is higher than that of the most common tumors, with a 5-year survival rate of 48% compared to 63% for the overall number of neoplasms. This is due, above all, to the limited experience of professionals due to their rarity, as well as to the difficulty of receiving effective specific treatments, since most of them do not have approved medication for this purpose, which is why they are also known as orphan tumors.

This program has been designed from the experience of leading cooperative group members in orphan cancer and Cancer of Unknown Primary. They are leading experts in rare cancers, but also in reference pathology groups in each case; internationally renowned professionals.

In this program, the experts, all of them leaders in each knowledge field, will develop aspects related to the context of this spectrum of pathologies, presenting their clinical and molecular vision, showing their diagnostic and therapeutic approaches and explaining complementary aspects such as their research and institutional environment or the global reality of the patients who suffer from these diseases.

Furthermore, students will be able to complete the program at their own pace, without being subject to fixed schedules or the commuting involved in classroom teaching, so they will be able to combine it with their other daily obligations.

This **Professional Master's Degree in Cancer of Unknown Primary** contains the most complete and up-to-date scientific program on the market. The most important features include:

- The development of case studies presented by oncology experts
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Latest advances on the treatment of Cancer of Unknown Primary
- Practical exercises where the self-assessment process can be carried out to improve learning
- Special emphasis on innovative methodologies in the diagnosis and treatment of Cancer of Unknown Primary
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection

You will complete your knowledge of pediatric cancer in a way you have never experienced before. You will learn the criteria to consider a tumor as a tumor"

You will acquire the skills to use molecular biology tools for a successful agnostic approach to Cancer of Unknown Primary"

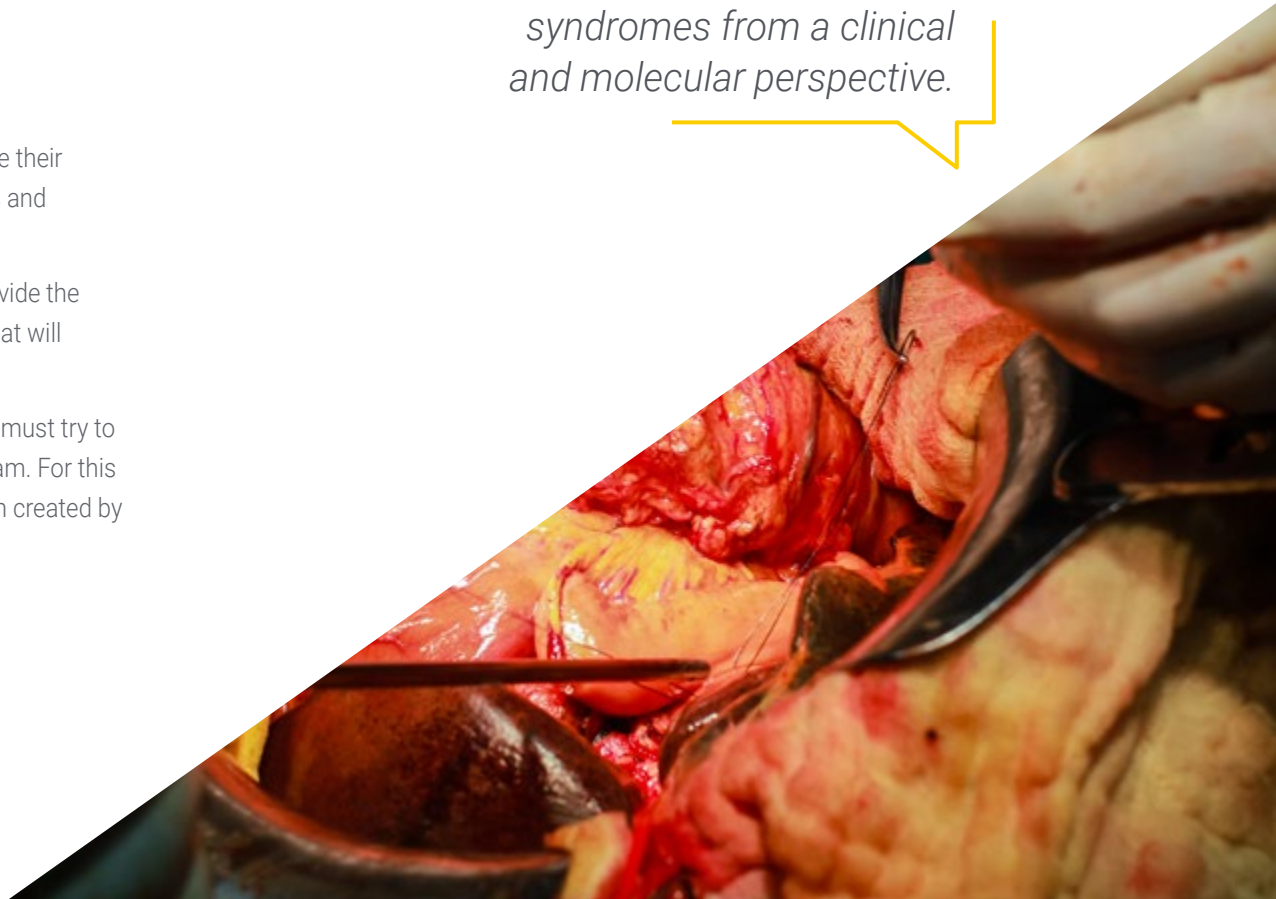
You will delve into the role of lung cancer as a paradigm of personalized medicine, with your contribution being a key to its treatment in the future.

In this program, you will learn about rare hereditary syndromes from a clinical and molecular perspective.

The teaching staff includes professionals from the oncology sector, who contribute their experience to this program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

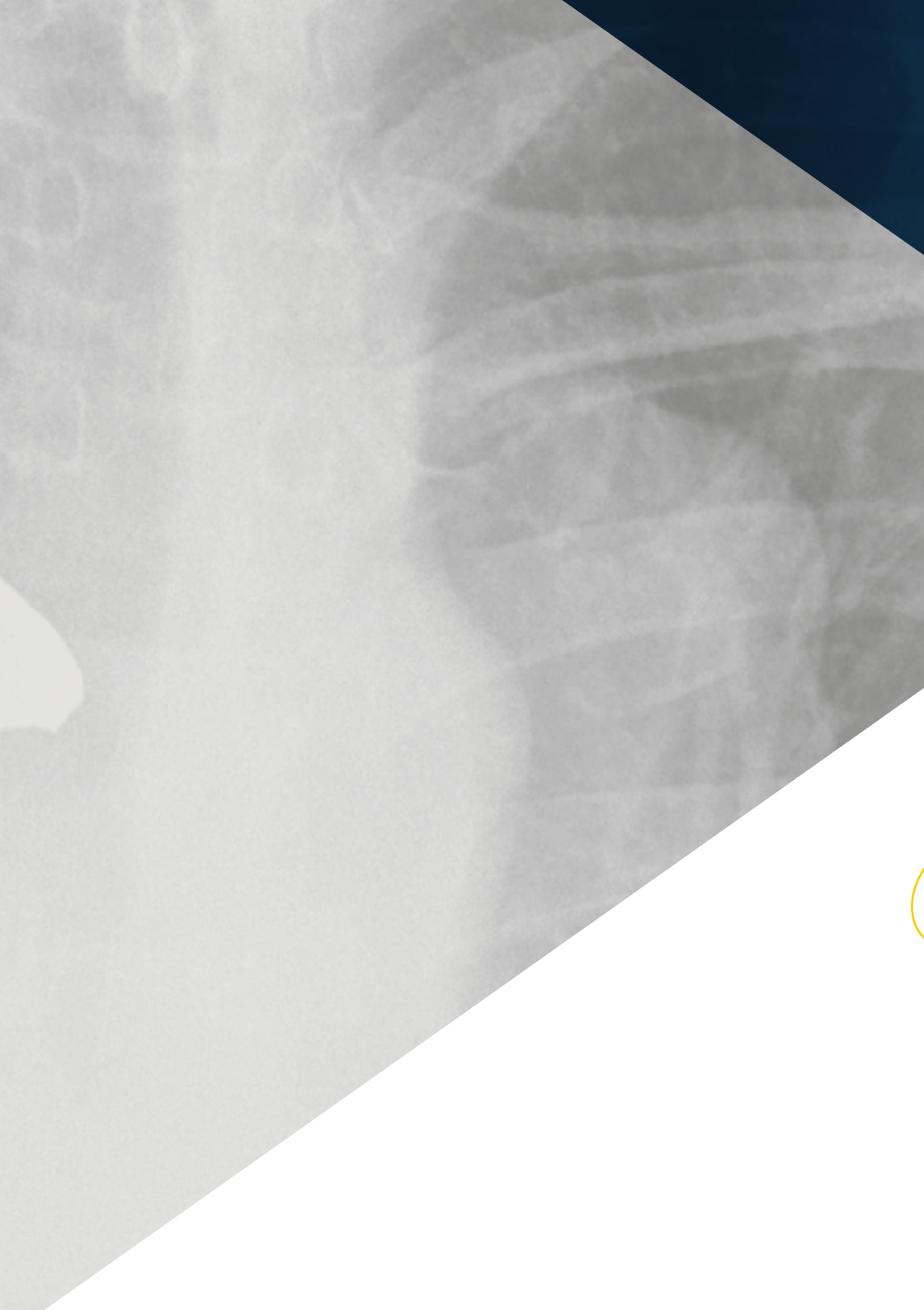
This program is designed around Problem-Based Learning, whereby the specialist must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts.



02

Objectives

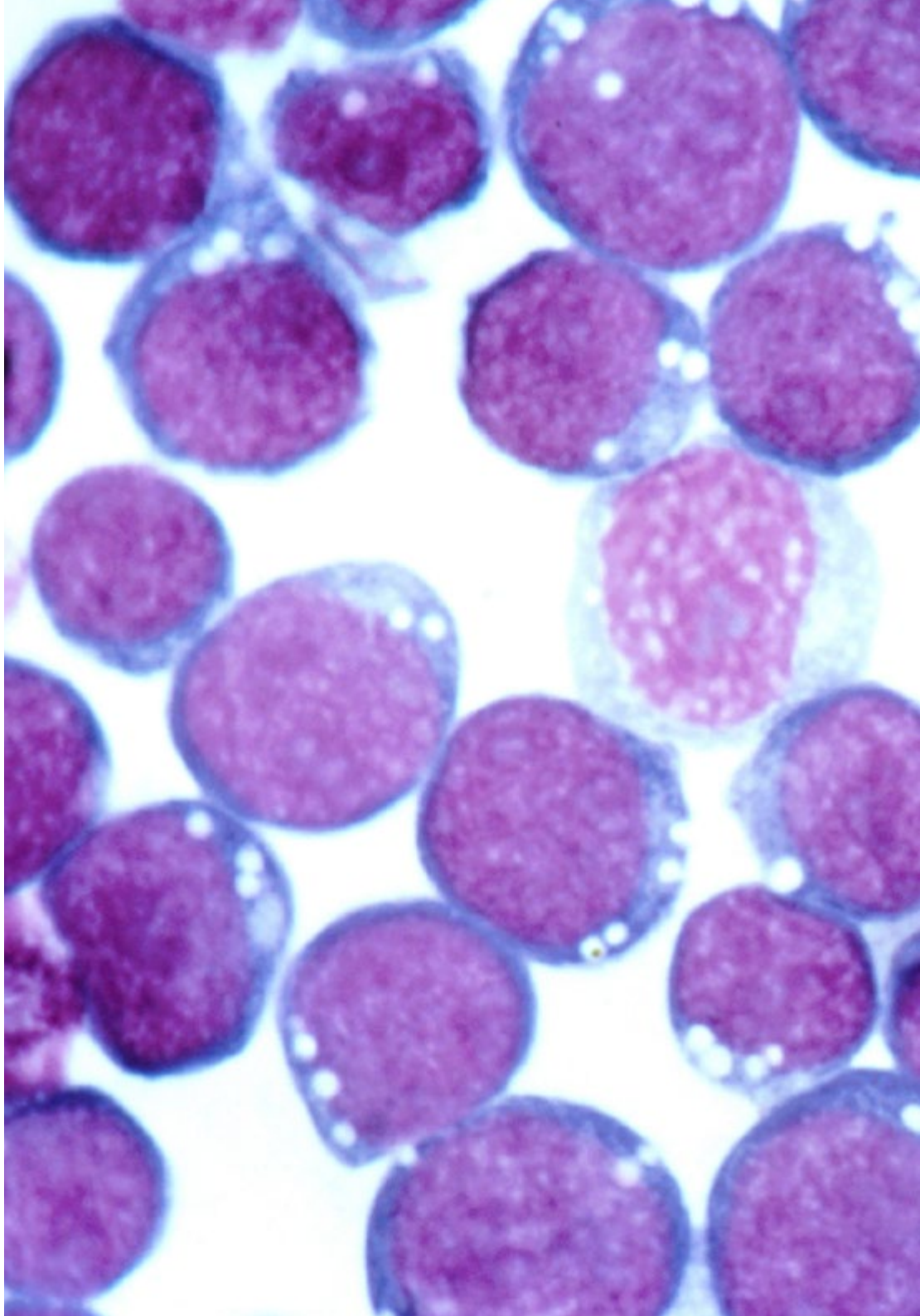
The design of this Professional Master's Degree in Cancer of Unknown Primary will allow students to delve into a field of medicine that needs qualified professionals to carry out relevant research. In this way, you will update your professional profile and boost your career in a new and essential field of study with future projection. Therefore, this program has been designed by a team of experts whose syllabus will enable future graduates to achieve the proposed objectives. You will also be fully equipped to deal with the latest advances and treatments currently being applied. For this reason, TECH has established a series of general and specific objectives for the satisfaction of future graduates, as follows.

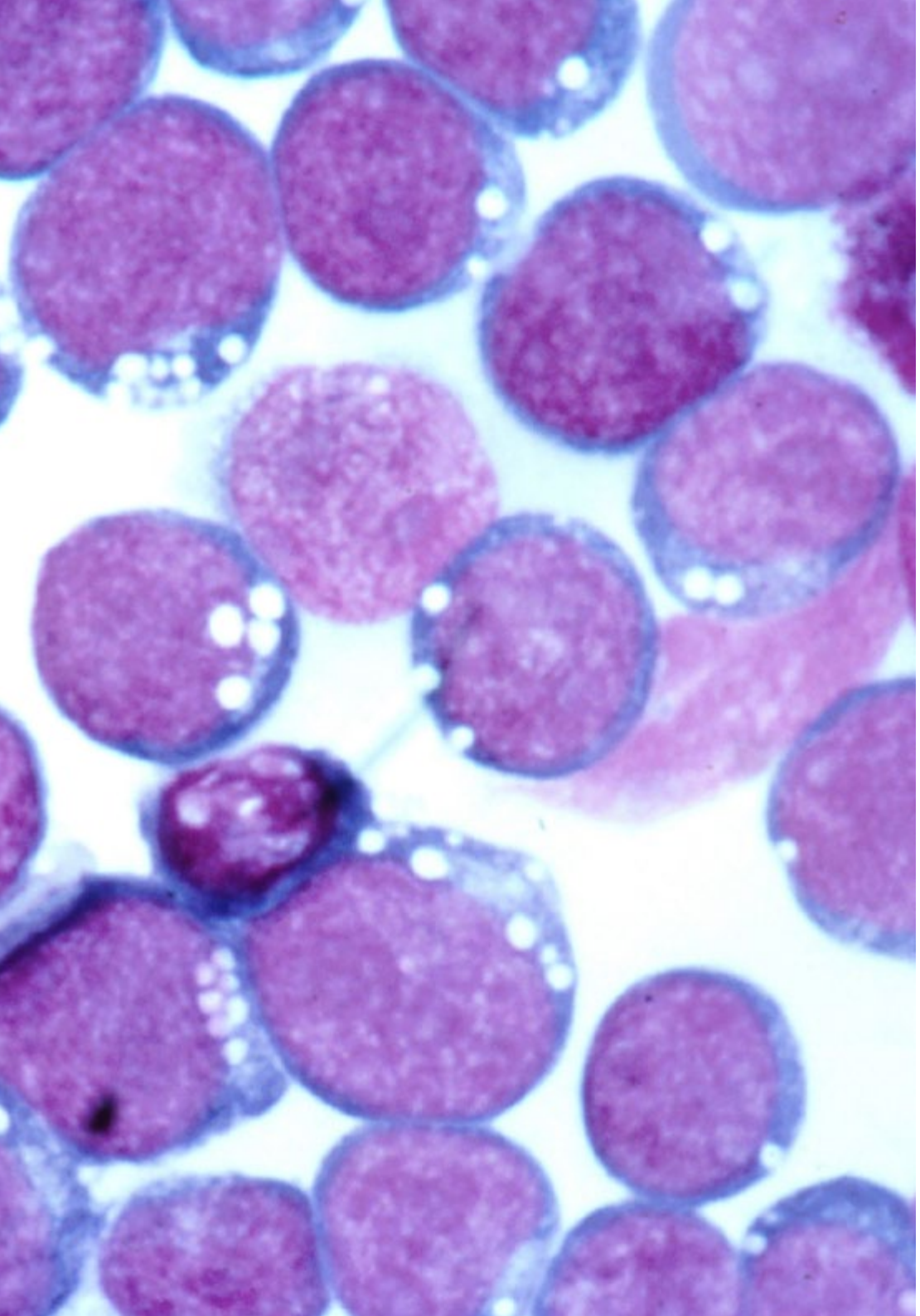


You will gain a deeper understanding of aspects related to precision medicine in the context of rare tumors, agnostic treatments and Cancer of Unknown Primary"

General Objectives

- Acquire concepts and knowledge regarding the epidemiology, clinical, diagnosis and treatment of infrequent tumors, agnostic diagnoses and cancers of unknown origin
- Know how to apply the diagnostic algorithms and evaluate the prognosis of this pathology
- Be able to integrate knowledge and face the complexity of formulating clinical and diagnostic judgements based on the available clinical information
- Apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to the area of study
- Know how to establish complex therapeutic plans in the context of the pathology in question Have a deeper knowledge of specific treatment networks, reference centers, clinical trials
- Acquire knowledge about molecular biology tools for the study of these tumors
- Gain a thorough understanding and use tumor registries
- Know and use face-to-face or virtual molecular committees
- Understand fundamental aspects of biobank operations
- Specialize in interprofessional relationship tools for the treatment of orphan, agnostic and unknown origin cancers and access expert networks in the different pathology groups
- Gain knowledge about how to communicate conclusions, and the ultimate knowledge and rationale behind them- to specialized and non-specialized audiences in a clear and unambiguous manner
- Understand social responsibility due to rare diseases





Specific Objectives

Module 1. The Reality of Rare Tumors, Cancer of Unknown Primary and Tumor-Agnostic Therapy

- Be able to place the entities under study in an epidemiological context, know their incidence and prevalence, as well as the trend of the rates at European levels
- Delve into survival data at European level and the causes of survival differences between rare tumors and reference tumor pathology
- Gain a deeper understanding of aspects related to precision medicine in the context of rare tumors, agnostic treatments and Cancer of Unknown Primary
- Manage the different models of care for infrequent tumors, as well as concepts in their field such as tumor registries, expert networks, reference units and tumor Board Review
- Acquire skills on biobanks and their role in clinical research
- Become familiar with the methodological aspects of low incidence tumor research
- Specialize in the European framework of legislation in relation to low incidence tumors, the role of regulatory agencies and the particularities of access to medication
- Be aware of the implications of all this in the patient's experience, as well as the repercussions of the disease at the psychological and social level

Module 2. Molecular Biology Tools for an Agnostic Approach to Rare Cancers

- Acquire skills to use molecular biology tools for an agnostic approach to rare cancers
- Gain in-depth knowledge of the study of tumor DNA, both in solid biopsy and liquid biopsy
- Study aspects of the genome, exome and sequencing panels; and learn about available platforms and current applications
- Develop skills in germline DNA, becoming familiar with the concepts of variants and polymorphisms and being able to delve into germline disorders
- Provide the necessary knowledge in the study of messenger RNA, developing content about the transcriptome, RNA sequencing panels (Nanostring) and Single Cell RNA
- Gain an in-depth understanding of the development, present and future of pharmaceutical drug sensing in primary cell culture and organoids
- Complete immunotherapy studies with aspects related to molecular biology, knowing concepts such as mutational load, neoantigens, microbiota or adoptive cell therapy

Module 3. Pleura, Mediastinum and Chest Wall Tumors Lung cancer as a paradigm of new rare tumors. Head and neck cancer

- Teach students how to manage four groups of pathologies in this area: pleural tumors, mediastinal tumors (thymoma and thymic carcinoma), chest wall tumors and neuroendocrine lung tumors (typical carcinoid, atypical carcinoid and large cell carcinoma)
- Acquire skills in aspects of epidemiology, etiology and pathogenesis, clinical presentation, diagnosis and classification, prognostic factors, treatment and clinical guideline recommendations
- Delve deeper into future expectations in each of these pathology contexts.
- Acquire competencies on the role of lung cancer as a paradigm of personalized medicine
- Be able to use diagnostic techniques and new treatment options The skills to be acquired in this block refer to the types of sample according to the diagnostic approach; optimization in sample management, response time and characteristics of the report; tumor heterogeneity; role of liquid biopsy; molecular diagnostic techniques: IHC, FISH, RT-PCR, NGS and guideline recommendations in this context
- Specialize in driver mutations in the lung cancer context: EGFR, BRAF, MET, KRAS, ALK, ROS-1
- Know in depth the role of translocations and rearrangements/amplifications: NTRK, RET, MET, HER-2
- Recognize the most uncommon tumors of the otorhinolaryngological and head and neck area, acquiring skills for their diagnosis and treatment

Module 4. Rare Digestive System Tumors: Digestive Neuroendocrine Tumors. Thyroid Cancer

- Have an in-depth knowledge of a heterogeneous group of pathologies with very different diagnostic, therapeutic and prognostic approaches, including: small bowel tumors, appendicular tumors, anal canal carcinoma, liver and intrahepatic bile duct tumors, gallbladder and extrahepatic bile duct neoplasms, and gastrointestinal stromal tumors
- Acquire skills in the molecular approach to enable effective treatment with targeted therapies, such as GIST (gastrointestinal stromal tumors) or more recently biliary tract carcinomas
- Study thyroid cancer and neuroendocrine tumors Acquire the ability to diagnose and treat this group of neoplasms
- Specialize in neuroendocrine tumors and acquire skills for their approach in the context of amultidisciplinary team

Module 5. Rare Gynecologic Tumors: Rare Breast Tumors. Rare Genitourinary Tumor Oncology

- Delve into orphan urological neoplasms
- Address rare urological pathology in terms of its clinical, diagnostic and therapeutic aspects, with special emphasis on molecular developments in recent years, in which many of these tumors are beginning to be tributary to a molecular approach
- Update knowledge on rare gynecologic cancers
- Recognize rare types of breast cancer, the more specific aspects of their approach and the complexity of their treatment

Module 6. Hereditary Syndromes: From Biology to Clinical Application: Pediatric Tumors and Childhood Tumors in Adults

- Gain an in-depth understanding of rare hereditary syndromes from a clinical and molecular perspective
- Have sufficient knowledge of the rare neoplasm, its relationship to heredity and the criteria for referral to a reference unit
- Acquire knowledge about pediatric cancer Know the criteria to consider a tumor, a tumor
- Become skilled in the diagnosis and treatment of these clinical entities

Module 7. Musculoskeletal Tumors: Epithelial Cancer. Central Nervous System Tumors. Ocular Tumors

- Specialize in sarcomas as a paradigm of rare cancers: their diversity, classification, characteristics and therapeutic diagnostic approach
- Prepare students for the initial approach and management of skeletal and soft tissue tumors and visceral sarcomas
- Obtain in-depth knowledge of rare and ultra-rare central nervous system tumors
- Expand knowledge of next generation sequencing (NGS) as an emerging technology that can detect a wide variety of molecular disorders in brain tumors

- Learn about the development of technology in new equipment for neuro-oncological care, allowing stereotactic surgery, the evolution of neuroimaging techniques, neuronavigation, neuroendoscopy, as well as the emergence of specialized surgery instruments
- Acquire knowledge about rare epithelial neoplasms, Merckel cell carcinoma and ocular melanoma

Module 8. Tumor-Agnostic Therapy

- Become familiar with the concept of agnostic diagnosis
- Delve into the new paradigm in cancer treatment, opening the door to the choice of treatment based on a particular biomolecular disorder, rather than on the type and location of the tumor, a concept known as tumor-agnostic therapy
- Acquire knowledge about one of the most important biomarkers detected: the NTRK fusion gene, which appears in a wide variety of tumor types, both in adult and pediatric patients
- Equip students with the necessary judgment to use molecular tools in an efficient and safe manner to detect patients carrying their mutations
- Manage the approach to tumors with microsatellite instability
- Delve into the development of numerous agnostic therapies for various diseases

Module 9. Cancer of Unknown Primary

- Delve into the concept of Cancer of Unknown Primary
- Know, in-depth, its modes of presentation and the tests that should be performed in targeted manner
- Acquire skills for the approach of this disease and the collaboration to optimize patient survival
- Know how use molecular tools in the context of this pathology
- Manage the peculiar aspects of its research approach: *basket* and *umbrella essays*

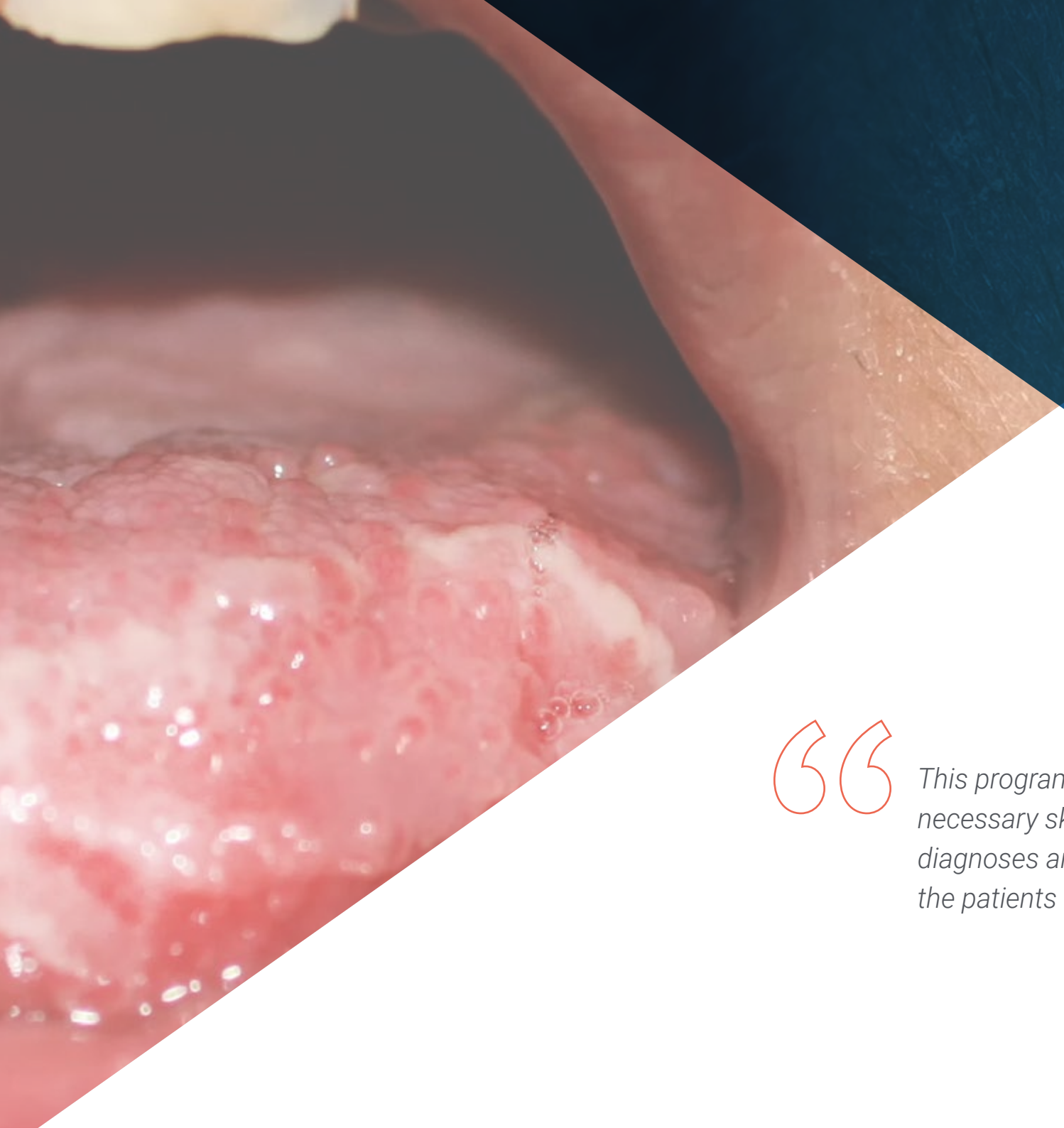
Module 10. Supportive Treatment, Antineoplastic Treatment Toxicity Control, Palliative Care and Care of Long Surviving Patients with Low-Incidence Tumors

- Learn to care for long-surviving patients, resulting in a population with very unique needs
- Acquire the skills to detect and address the needs of this population
- Provide skills for terminal illness, end of life and pain care
- Delve into the importance of supportive care in the quality of life and cancer patient survival
- Acquire skills for the care of major cancer syndromes: pain, emesis, alterations of the intestinal habitus, etc
- Be able to deal with the toxicity of oncological treatment

03

Skills

The structure of this program has been designed in such a way that professionals will have acquired the skills required for a quality and up-to-date practice based on the most innovative educational methodology. In addition to an innovative methodology, TECH guarantees students quality content according to their expectations, giving them the opportunity to excel in their professional field and progress in this medical field. Therefore, they will be qualified to perform the various functions related to this program, together with the most innovative proposals in this field of action, guiding them towards excellence. A series of aspects demanded by medicine in general and affected patients in particular.

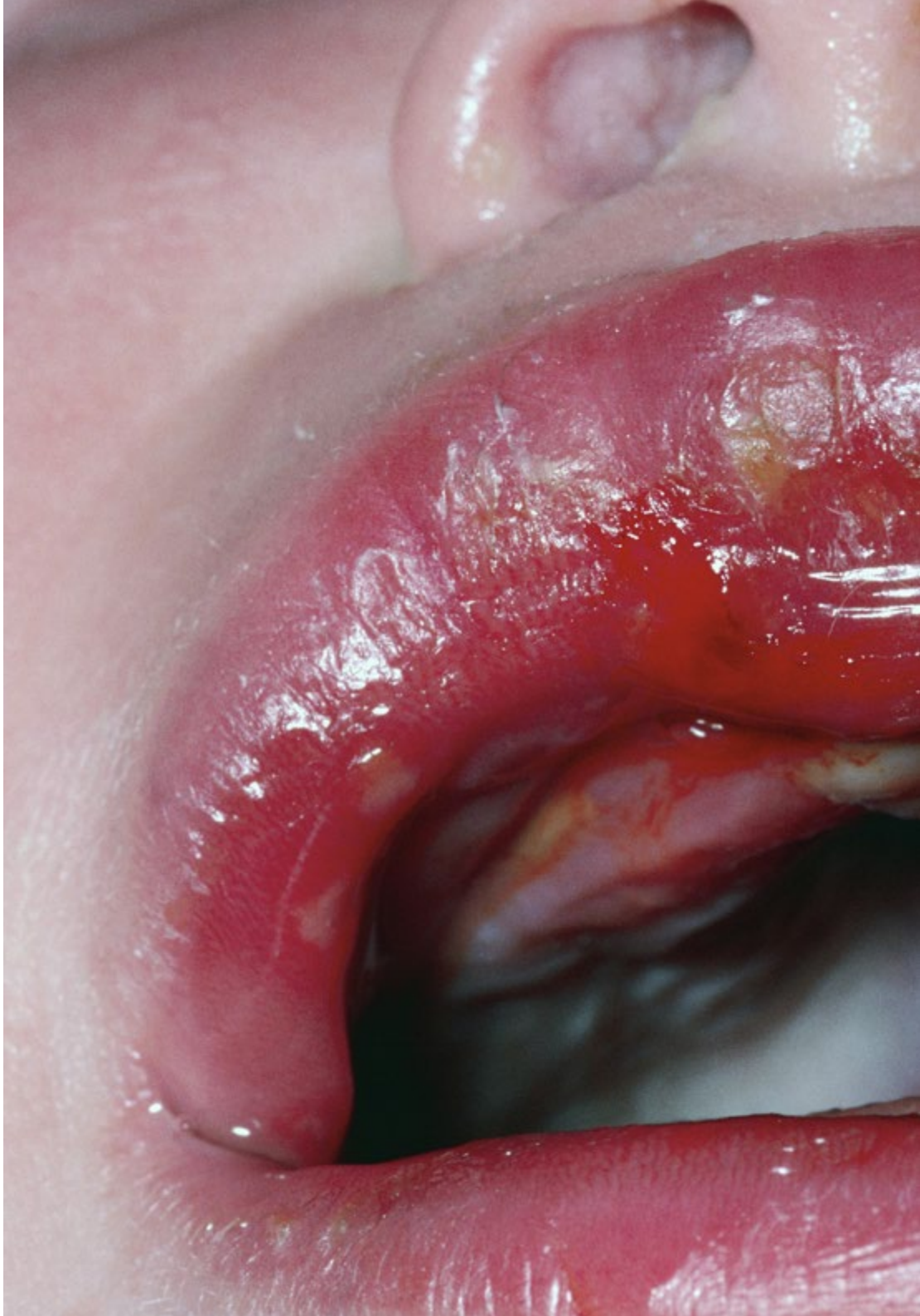


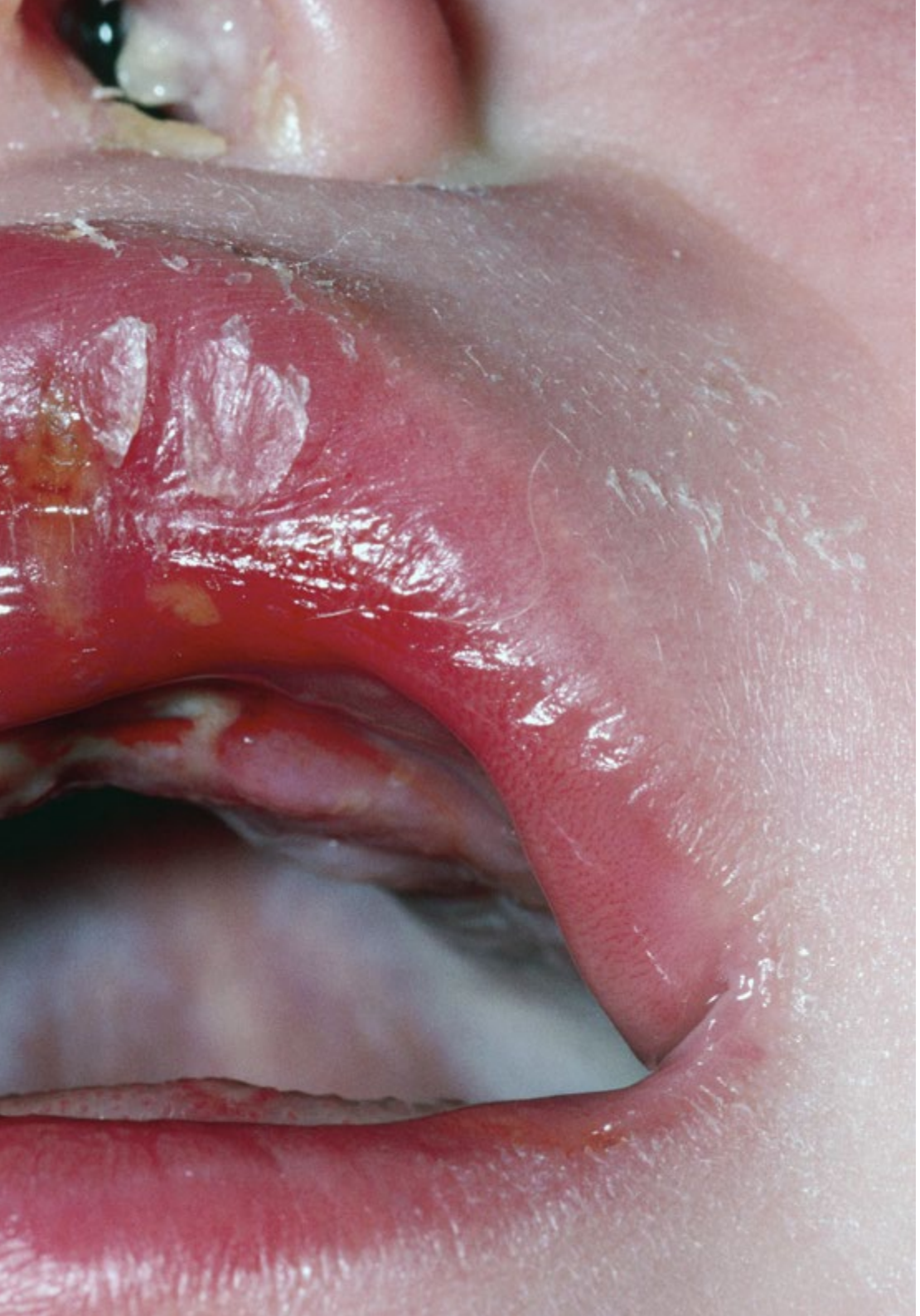
This program will enable you to acquire the necessary skills to be more effective in your diagnoses and improve the quality of life of the patients under your supervision"

General Skills

- Possess knowledge and understanding that provides a basis or opportunity to develop and/or apply original ideas, often in a research context
- Integrate knowledge and face the complexity of making judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments
- Manage the communication of findings, and the ultimate knowledge and rationale behind them, to specialized and non-specialized audiences in a clear and unambiguous manner
- Incorporate new technologies into daily practice, knowing their advances, limitations and future potential

Understanding the social responsibility owed to rare diseases is among the skills you will develop during the program"





Specific Skills

- Understand the concepts surrounding this disease: rare tumor, tumor-agnostic therapy, cancer of unknown primary
- Understand the epidemiological and social significance of rare cancers
- Possess and understand knowledge that provides a basis for the global approach to these diseases
- Master knowledge of molecular biology tools for the study of these tumors
- Apply diagnostic algorithms and evaluate the prognosis of this disease
- Gain in-depth knowledge of interprofessional relationship tools for rare cancers, cancer of unknown primary and tumor-agnostic therapy
- Further develop and use tumor registries
- Know in-depth and use face-to-face or virtual molecular committees
- Understand aspects of biobank operations
- Apply knowledge to solve clinical and research problems in this area of rare pathologies
- Specialize in the fundamental problems that occur in the field of this disease Understand medication access circuits
- Communicate knowledge in the setting of these tumors
- Possess learning skills that allow continued self-directed or autonomous study in this environment
- Understand social responsibility due to rare diseases
- Possess and understand in-depth knowledge that provides a basis for the development and/or application of ideas in a research context

04

Course Management

In its commitment to offering an elite education for all, TECH counts on renowned professionals so students acquire a solid knowledge in the medical specialty of this field. For this reason, the present study plan has a highly qualified equipment, referring to oncology, the different oncologic treatments and their effects, which will offer the best tools for students in the development of their abilities during the program. In addition, other leading, prestigious experts participate in its design and elaboration, completing the program in an interdisciplinary way, providing a broad and complete vision of the the approach to unknown and infrequent cancers. Therefore, thanks to this Professional Master's Degree, TECH also promotes the development of students' research faculties, in pursuit of scientific-medical progress and patient improvement.

You are one step away from learning from the best. By specializing alongside experienced, renowned oncologists, you will achieve excellence"

Management

Dr. Beato, Carmen

- Medical Oncologist at University Hospital Virgen Macarena. Unit of Urological Tumors, Infrequent and of Unknown Origin
- Expert in Immuno-Oncology
- Master's Degree in Palliative Care
- Expert in Clinical Trials
- Member of the Spanish Group on Orphan and Infrequent Tumors (GETHI)
- Secretary Spanish Group for Cancer of Unknown Primary (GECOD)

Professors

Dr. García-Donas Jiménez, Jesús

- Oncologist Urological, Gynecological and Dermatological Tumors Unit.
- Director of the Translational Oncology Laboratory
- Expert in Immuno-Oncology
- Clara Campal Comprehensive Oncology Center
- Treasurer of the Spanish Group of Orphan and Infrequent Tumors (GETHI)

Dr. Fernández Pérez, Isaura

- Oncologist Breast, Gynecologic, Gynecologic, Cancer of Unknown Primary and Central Nervous System Unit. University Hospital Complex in Vigo-Hospital Álvaro Cunqueiro
- Member of the Spanish Group for Cancer of Unknown Primary (GECOD)

Dr. De las Peñas Bataller, Ramón

- Castellón Provincial Hospital Consortium. Central Nervous System Tumors Unit, Lung, Sarcomas and Rare Tumors

Dr. Corral Jaime, Jesús

- Oncologist Navarra University Clinic. Madrid. Thoracic Tumor Unit

Dr. Pérez Altozano, Javier

- Virgen de los Lirios Hospital Alcoy Thoracic, Head and Neck, Unknown Origin, CNS and Dermatological Tumor Unit

Dr. Reina Zoilom Juan José

- Oncologist Digestive and Neuroendocrine Tumor Unit. Virgen Macarena University Hospital

Dr. Henao Carrasco, Fernando

- Oncologist Breast Cancer, Hereditary Cancer and Lymphoma Unit. Virgen Macarena University Hospital

Dr. Martín Ramos, Francisco Javier

- Specialist in Orthopedic Surgery and Traumatology. Raquis Surgery Unit
- Postgraduate Diploma in Pathologies for Disorders of the Locomotor System
- Master's Degree in Clinical Trials. Virgen Macarena University Hospital

Dr. Calero Domínguez, Raquel

- PhD in Psychology, UCM
- General Health Psychologist
- Expert in Psycho-Oncology and Palliative Care
- Responsible for Psychology at MAPFRE Medical Center

Dr. Morillo Rojas, María Dolores

- Medical Specialist in Ophthalmology. Virgen del Rocío University Hospital

Dr. Navarro Alcaraz, Paloma

- Doctor of Pharmacy
- Translational Oncology Laboratory and Innovation in Oncology Laboratory
- HM Hospitales-CIOCC Research Foundation

Dr. Ruiz Llorente, Sergio

- D. in Biology
- Translational Oncology Laboratory and Innovation in Oncology Laboratory
- HM Hospitales-CIOCC Research Foundation

Dr. Barquín, Aránzazu

- Oncologist Urological, Gynecological and Dermatological Tumors Unit. Clara Campal Comprehensive Oncology Center
- Treasurer of the Spanish Group of Orphan and Infrequent Tumors (GETHI)

Dr. García, David

- Pediatric Oncologist. Virgen Macarena University Hospital

The best teachers are at the best university. Think no more and specialize with us"

05

Structure and Content

The structure of the contents of this program has been designed based on the medical requirements applied to the investigation of Cancer of Unknown Primary, a field still little studied that demands qualified experts. This is a unique and innovative program, an essential study to achieve patient improvement and a better understanding of the incidence of oncological treatments. Therefore, the content of this Professional Master's Degree has been structured in such a way that it includes all the necessary information for students on their way to medical excellence in this field, taking into account the advances in new technologies applied to medicine and the latest updates in the sector, successfully advancing in their academic career.

TECH offers you a unique opportunity with this Professional Master's Degree in Cancer of Unknown Primary. Study it and boost your career path towards a future specialization"

Module 1. The Reality of Rare Tumors, Cancer of Unknown Primary and Tumor-Agnostic Therapy

1.1. Low-Incidence Cancer
- 1.1.1. Rare and Ultra-Rare Cancer
- 1.1.2. Orphan Tumors
- 1.1.3. Tumor-Agnostic Therapy
- 1.1.4. Cancer of Unknown Primary

1.2. Rare Cancer Epidemiology
- 1.2.1. Incidence and Prevalence of Rare Tumors
- 1.2.2. Index Trend at European Level

1.3. Survival in Rare Tumors
- 1.3.1. European Survival Data
- 1.3.2. Reasons for Differences in Survival

1.4. Precision Medicine and Rare Tumors
- 1.4.1. Precision Medicine
- 1.4.2. Precision Medicine Rationale for Rare Tumors
- 1.4.3. Clinical Experiences with Precision Medicine in Rare Tumors
- 1.4.4. The Application of Genomics in the Diagnosis and Treatment of Rare Tumors

1.5. Rare Tumor Care Models
- 1.5.1. Tumor Registries
- 1.5.2. Expert Networks
- 1.5.3. Reference Units
- 1.5.4. Tumor *Board Review*

1.6. Biobank Role in Clinical Research
- 1.6.1. Biobank
- 1.6.2. Legislative Regulations
- 1.6.3. Biobank in Rare Tumor Management

1.7. Methodological Aspects of Clinical Research in Rare Tumors
- 1.7.1. Importance of Clinical Research in Rare Tumors
- 1.7.2. Research Difficulties in Rare Tumors
- 1.7.3. New Clinical Trial Models
- 1.7.4. Bayesian Inference
- 1.7.5. Nanoscience Applied to Rare Tumors or Bioinformatics and New Mathematical Models to Study Rare Tumors

1.8. Legislation
- 1.8.1. European Framework
- 1.8.2. Regulatory Agencies

1.9. Pharmaceutical Access
- 1.9.1. Pharmaceutical Access
- 1.9.2. *Off* Label Therapies

1.10. Psychological and Social Aspects of Low-Incidence Tumors
- 1.10.1. Psychological Aspects of this Pathology Spectrum
- 1.10.2. Social Issues Affecting Rare Cancer Patients

Module 2. Molecular Biology Tools for an Agnostic Approach to Rare Cancers

2.1. Molecular Oncology Concepts
- 2.1.1. Genetic Concepts
- 2.1.2. Epigenetic Concepts
- 2.1.3. ctDNA Concepts
- 2.1.4. RNA Concepts

2.2. Tumor DNA Study I: Solid Biopsy
- 2.2.1. Genome
- 2.2.2. Exome
- 2.2.3. Sequencing Panels

2.3. Tumor DNA Study II. Fluid Biopsy
- 2.3.1. Available Platforms
- 2.3.2. Current Applications

2.4. Germline DNA Study
- 2.4.1. Variants and Polymorphisms
- 2.4.2. Germline Disorders

2.5. Messenger RNA Study
- 2.5.1. Transcriptome
- 2.5.2. Sequencing Panels (*Nanostring*)
- 2.5.3. *Single-Cell* RNA

2.6. Epigenetics I: Methylome and Methylation Panels
  2.6.1. Methyloma
  2.6.2. Methylation Panels
2.7. Epigenetics II: Non-Coding RNA, Chromatin Modifications
  2.7.1. *Long Non-Coding* RNA
  2.7.2. MicroRNA
  2.7.3. Chromatin Remodeling
2.8. Functional Models I: Drug Sensing in Primary Cell Culture and Organoids
2.9. Molecular Biology in Immuno-Oncology I
  2.9.1. Tumor *Mutation Burden*
  2.9.2. Neoantigens
  2.9.3. Microbiota
  2.9.4. Adoptive Cell Therapy
2.10. Molecular Biology in Immuno-Oncology II: Functional Models
  2.10.1. Lymphocyte Co-Culture
  2.10.2. Humanized Mouse Methods

Module 3. Pleural, Mediastinal and Chest Wall Tumors: Lung Cancer As a Paradigm of New Rare Tumors. Head and Neck Cancer

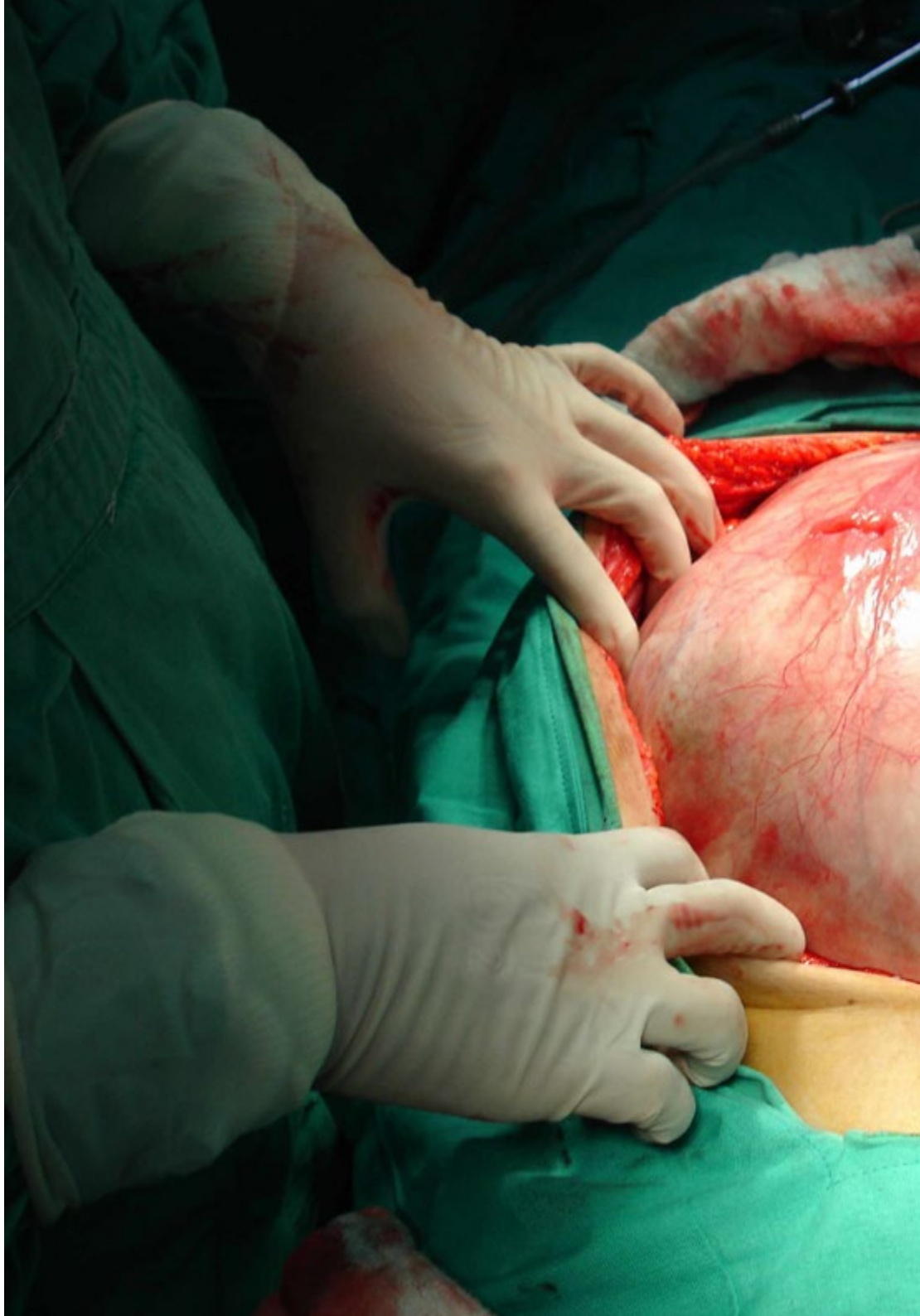
3.1. Pleural Tumors: Mesothelioma
  3.1.1. Introduction and Epidemiology
  3.1.2. Etiology and Pathogenesis
  3.1.3. Clinical Presentation
  3.1.4. Diagnosis and Staging
  3.1.5. Prognostic Factors
  3.1.6. Treatment and Recommendations (Guidelines/Consensus)
  3.1.7. Future Perspectives
3.2. Mediastinal Tumors: Thymoma and Thymic Carcinoma
  3.2.1. Introduction and Epidemiology
  3.2.2. Etiology and Pathogenesis
  3.2.3. Clinical Presentation
  3.2.4. Diagnosis and Staging
  3.2.5. Prognostic Factors
  3.2.6. Treatment and Recommendations (Guidelines/Consensus)
  3.2.7. Future
3.3. Chest Wall Tumors
  3.3.1. Introduction and Epidemiology
  3.3.2. Etiology and Pathogenesis
  3.3.3. Clinical Presentation
  3.3.4. Diagnosis and Classification
  3.3.5. Prognostic Factors
  3.3.6. Treatment and Recommendations
  3.3.7. Future
3.4. Pulmonary Neuroendocrine Tumor: Typical Carcinoid, Atypical Carcinoid, and Large Cell Carcinoma
  3.4.1. Introduction and Epidemiology
  3.4.2. Etiology and Pathogenesis
  3.4.3. Clinical Presentation
  3.4.4. Diagnosis and Classification
  3.4.5. Prognostic Factors
  3.4.6. Treatment and Recommendations
  3.4.7. Future
3.5. Lung Cancer as a Paradigm for Personalized Medicine: Diagnostic Techniques and the Role of Liquid Biopsy
  3.5.1. Introduction
  3.5.2. Sample Types According to Diagnostic Approach
  3.5.3. Sample Handling Optimization
  3.5.4. Response Time and Report Characteristics
  3.5.5. Tumor Heterogeneity: Role of Liquid Biopsy
  3.5.6. Molecular Diagnostic Techniques: IHQ, FISH, RT-PCR, NGS
  3.5.7. Guideline Recommendations

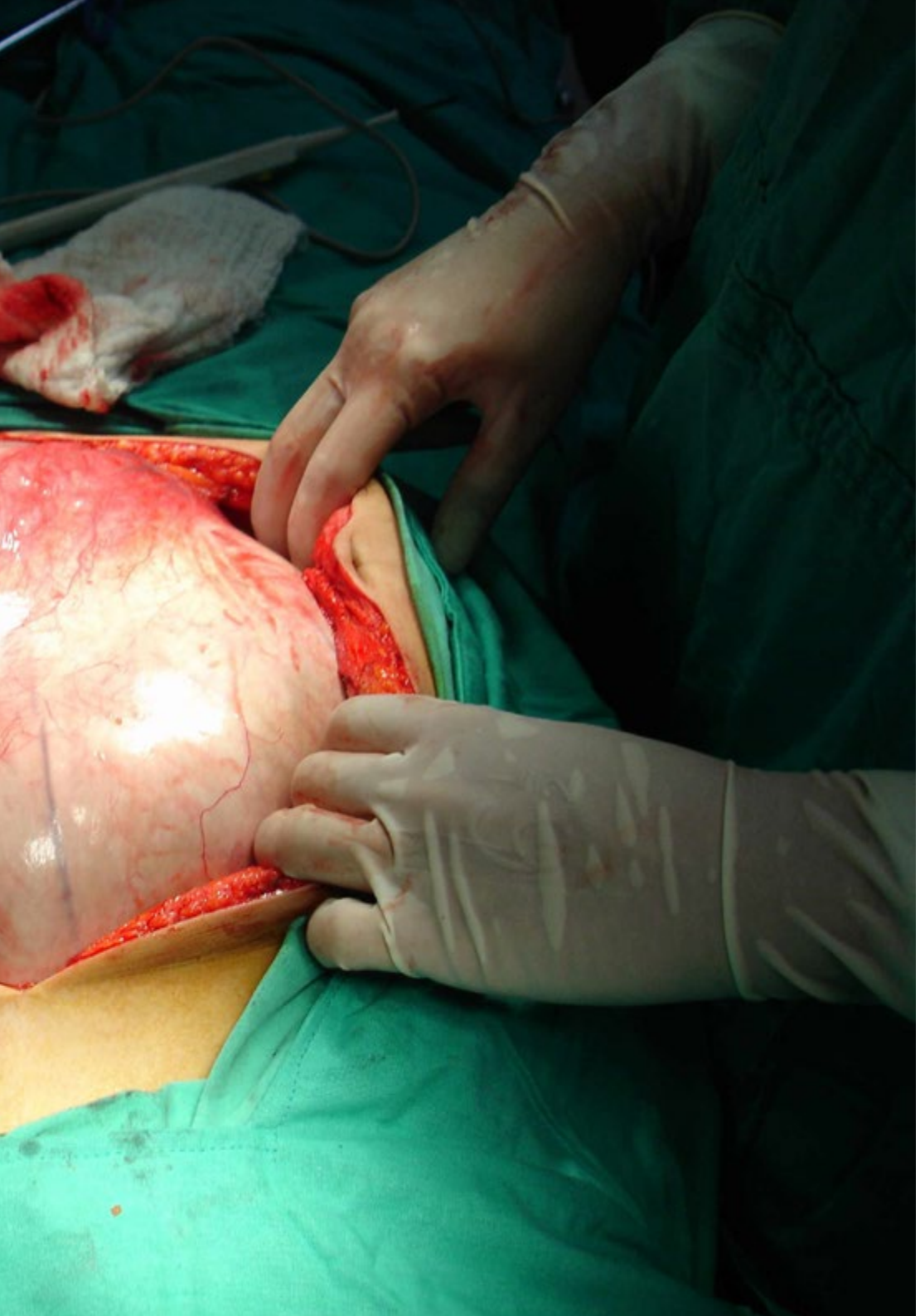
3.6. Mutations: EGFR, BRAF, MET, KRAS
- 3.6.1. Introduction: Epidemiology, Patient Profile, Diagnostic Techniques and Brain Disease
- 3.6.2. Prognostic Factors
- 3.6.3. First-Line Targeted Therapy
- 3.6.4. Resistance Mechanisms
- 3.6.5. Second-Line Therapy and Successive Lines
- 3.6.6. Role of Chemotherapy +/- Immunotherapy
- 3.6.7. Future

3.7. Translocations: ALK, ROS-1
- 3.7.1. Introduction: Epidemiology, Patient Profile, Diagnostic Techniques and Brain Disease
- 3.7.2. Prognostic Factors
- 3.7.3. First-Line Targeted Therapy
- 3.7.4. Resistance Mechanisms
- 3.7.5. Second-Line Therapy and Successive Lines
- 3.7.6. Role of Chemotherapy +/- Immunotherapy
- 3.7.7. Future

3.8. Rearrangements/Amplifications: NTRK, RET, MET, HER-2
- 3.8.1. Introduction: Epidemiology, Patient Profile, Diagnostic Techniques and Brain Disease
- 3.8.2. Prognostic Factors
- 3.8.3. First-Line Targeted Therapy
- 3.8.4. Resistance Mechanisms
- 3.8.5. Second-Line Therapy and Successive Lines
- 3.8.6. Role of Chemotherapy +/- Immunotherapy
- 3.8.7. Future

3.9. Nasopharyngeal Carcinoma and Salivary Gland Tumors: Nasal and Paranasal Sinus Tumors
- 3.9.1. Nasopharyngeal Carcinoma
  - 3.9.1.1. Introduction
  - 3.9.1.2. Epidemiological Data
  - 3.9.1.3. Etiology and Etiopathogenesis
  - 3.9.1.4. Clinical Manifestations





3.9.1.5. Diagnostic Methods and Extension Diagnosis
3.9.1.6. Multidisciplinary Treatment
3.9.2. Salivary Gland Tumors
3.9.2.1. Major Salivary Gland Tumors
3.9.2.2. Minor Salivary Gland Tumors
3.9.3. Nasal and Paranasal Sinus Tumors
3.9.3.1. Epidemiology
3.9.3.2. Etiopathogeny, Histology and Natural History
3.9.3.3. Clinical, Diagnostic and Staging
3.9.3.4. Treatment

3.10. Melanomas, Sarcomas and Lymphoproliferative Syndromes of the Head and Neck: Rare Tumors. Ameloblastoma. Neuroendocrine Head and Neck Tumors
3.10.1. Head and Neck Melanoma
3.10.1.1. Etiologic, Epidemiologic and Clinical Factors
3.10.1.2. Diagnostic and Therapeutic Aspects
3.10.1.3. Special Presentations of Head and Neck Melanoma
3.10.2. Head and Neck Sarcomas
3.10.2.1. Etiopathogenesis and Epidemiology
3.10.2.2. Clinical Aspects
3.10.2.3. Diagnosis
3.10.2.4. Therapeutic Aspects
3.10.3. Lymphoproliferative Head and Neck Syndromes
3.10.3.1. Etiological Factors
3.10.3.2. Staging Procedures
3.10.3.3. Clinical Scheme of Lymphoid System Neoplasms
3.10.4. Dental Tumors
3.10.4.1. Odontogenic Tumor Classification
3.10.5. Ameloblastoma
3.10.6. Neuroendocrine Head and Neck Tumors
3.10.6.1. Neuroendocrine Carcinomas of Epithelial Origin
3.10.6.2. Atypical Carcinoid
3.10.6.3. Small Cell Neuroendocrine Carcinoma
3.10.6.4. Large Cell Neuroendocrine Carcinoma
3.10.6.5. Neuroendocrine Carcinoma of Neural Origin

Module 4. Rare Digestive System Tumors: Digestive Neuroendocrine Tumors. Thyroid Cancer

4.1. Small Intestine Tumors: Appendicular Tumors
- 4.1.1. Small Intestine Tumors
  - 4.1.1.1. Epidemiology: Risk Factors
  - 4.1.1.2. Pathogenesis, Molecular Profile and Hereditary Syndromes
  - 4.1.1.3. Clinical Characteristics: Histological Subtypes
  - 4.1.1.4. Diagnosis and Staging: Prognosis
  - 4.1.1.5. Localized Disease Treatment: Monitoring
  - 4.1.1.6. Metastatic Disease Treatment
- 4.1.2. Appendicular Tumors
  - 4.1.2.1. Epidemiology
  - 4.1.2.2. Histology Staging.
  - 4.1.2.3. Clinical Presentation. Diagnosis
  - 4.1.2.4. Localized Disease Treatment
  - 4.1.2.5. Metastatic Disease Treatment
  - 4.1.2.6. Pseudomyxoma Peritoneum

4.2. Anal Cancer
- 4.2.1. Epidemiology: Risk Factors
- 4.2.2. HPV, Genotypes: Molecular Pathogenesis
- 4.2.3. Anatomical Pathology: Staging.
- 4.2.4. Clinical Presentation: Diagnosis
- 4.2.5. Localized Disease Treatment: Monitoring
- 4.2.6. Metastatic Disease Treatment: Immunotherapy

4.3. Liver and Intrahepatic Bile Duct Tumors: Gallbladder and Extrahepatic Bile Duct Neoplasms
- 4.3.1. Hepatocellular Carcinoma
  - 4.3.1.1. Epidemiological Aspects
  - 4.3.1.2. Diagnostic Process
  - 4.3.1.3. Staging
  - 4.3.1.4. Local Disease Management: Transplantation vs. Resection
  - 4.3.1.5. Local Disease Management: Ablative Techniques
  - 4.3.1.6. Locally Advanced Disease Management
    - 4.3.1.6.1. Radioembolization
    - 4.3.1.6.2. Transarterial Chemoembolization
    - 4.3.1.6.3. Radiotherapy
  - 4.3.1.7. Metastatic Disease Treatment
- 4.3.2. Bile Duct Tumors
  - 4.3.2.1. Characterization of the Three Entities that Form the Group
  - 4.3.2.2. Epidemiological Aspects
  - 4.3.2.3. Risk Factors
  - 4.3.2.4. Clinical Expressivity
  - 4.3.2.5. Diagnostic Aspects
  - 4.3.2.6. Unresectability Criteria
  - 4.3.2.7. Histological Aspects
  - 4.3.2.8. Molecular Aspects: Molecular Classification
  - 4.3.2.9. Described Genomic Disorders
  - 4.3.2.10. Localized Disease Treatment
    - 4.3.2.10.1. Surgery
    - 4.3.2.10.2. Adjuvant Criteria
    - 4.3.2.10.3. Monitoring
  - 4.3.2.11. Advanced Disease Treatment
    - 4.3.2.11.1. Locally Advanced Disease Treatment
    - 4.3.2.11.2. Metastatic Disease Treatment
  - 4.3.2.12. Monitoring

4.4. GIST (Gastro-Intestinal Stromal Tumors)
- 4.4.1. Clinical and Epidemiological Aspects
- 4.4.2. Diagnostic Process of GISTs
  - 4.4.2.1. Radiology
  - 4.4.2.2. Histology
  - 4.4.2.3. Molecular Biology

4.4.3. Localized Disease Treatment
4.4.3.1. Surgical Aspects
4.4.3.2. Prognostic Factors after Resection
4.4.3.3. Adjuvant Treatment
4.4.3.4. Neoadjuvant Treatment
4.4.4. Advanced Disease Treatment
4.4.4.1. Surgery in the Advanced Disease Context
4.4.4.2. Systemic Treatment
4.4.4.3. Monitoring
4.5. Neuroendocrine Tumors: Small Intestinal Tumors
4.5.1. Epidemiology
4.5.2. Anatomical Pathology Histologic Grades: Ki67 and Mitotic Index
4.5.3. Molecular Factors: Bio Markers
4.5.4. Clinical Presentation: Carcinoid Syndrome
4.5.5. Diagnosis and Staging. Prognosis
4.5.6. Localized Disease Treatment: Monitoring
4.5.7. Metastatic Disease Treatment: Hormonal Hypersecretion Treatment
4.6. Neuroendocrine Tumors: Pancreatic Tumors
4.6.1. Epidemiology
4.6.2. Anatomical Pathology Histologic Grades
4.6.3. Molecular Factors: Bio Markers
4.6.4. Clinical Presentation: Carcinoid Syndrome
4.6.5. Diagnosis and Staging: Prognosis
4.6.6. Localized Disease Treatment Monitoring
4.6.7. Metastatic Disease Treatment: Hormonal Hypersecretion Syndromes Treatment
4.6.8. Advanced Lines of Therapy
4.7. Thyroid Cancer
4.7.1. Introduction
4.7.2. Incidence and Epidemiology
4.7.3. Clinical and Diagnostic Aspects
4.7.4. General Treatment Aspects
4.7.5. Guideline Recommendations and Evidence Level
4.8. Differentiated Thyroid Cancer
4.8.1. Diagnostics, Anatomical Pathology and Molecular Biology
4.8.2. Staging and Risk Assessment
4.8.3. Primary Tumor Management
4.8.4. Advanced Disease Management
4.8.5. Monitoring and Long-Term Survivors
4.9. Anaplastic Thyroid Cancer
4.9.1. Diagnostics, Anatomic Pathology and Molecular Biology
4.9.2. Staging and Risk Assessment
4.9.3. Primary Tumor Management
4.9.4. Advanced Disease Management
4.9.5. Monitoring and Long-Term Survivors
4.10. Medullary Thyroid Cancer
4.10.1. Diagnostics, Anatomical Pathology and Molecular Biology
4.10.2. Staging and Risk Assessment
4.10.3. Primary Tumor Management
4.10.4. Advanced Disease Management
4.10.5. Monitoring and Long-Term Survivors

Module 5. Rare Gynecologic Tumors: Rare Breast Tumors. Rare Genitourinary Tumor Oncology

5.1. Rare Ovarian Cancer
5.1.1. Sexual Cord Tumors
5.1.2. Granulosa Cell Tumors
5.1.3. Germ Cell Tumors in Women
5.1.4. Ovarian Sarcomas
5.1.5. Hereditary Ovarian Cancer
5.2. Rare Ovarian Cancer
5.2.1. Adenosarcoma
5.2.2. Mixed Mullerian Tumor
5.2.3. Uterine Sarcomas
5.2.4. Hereditary Endometrial Carcinoma

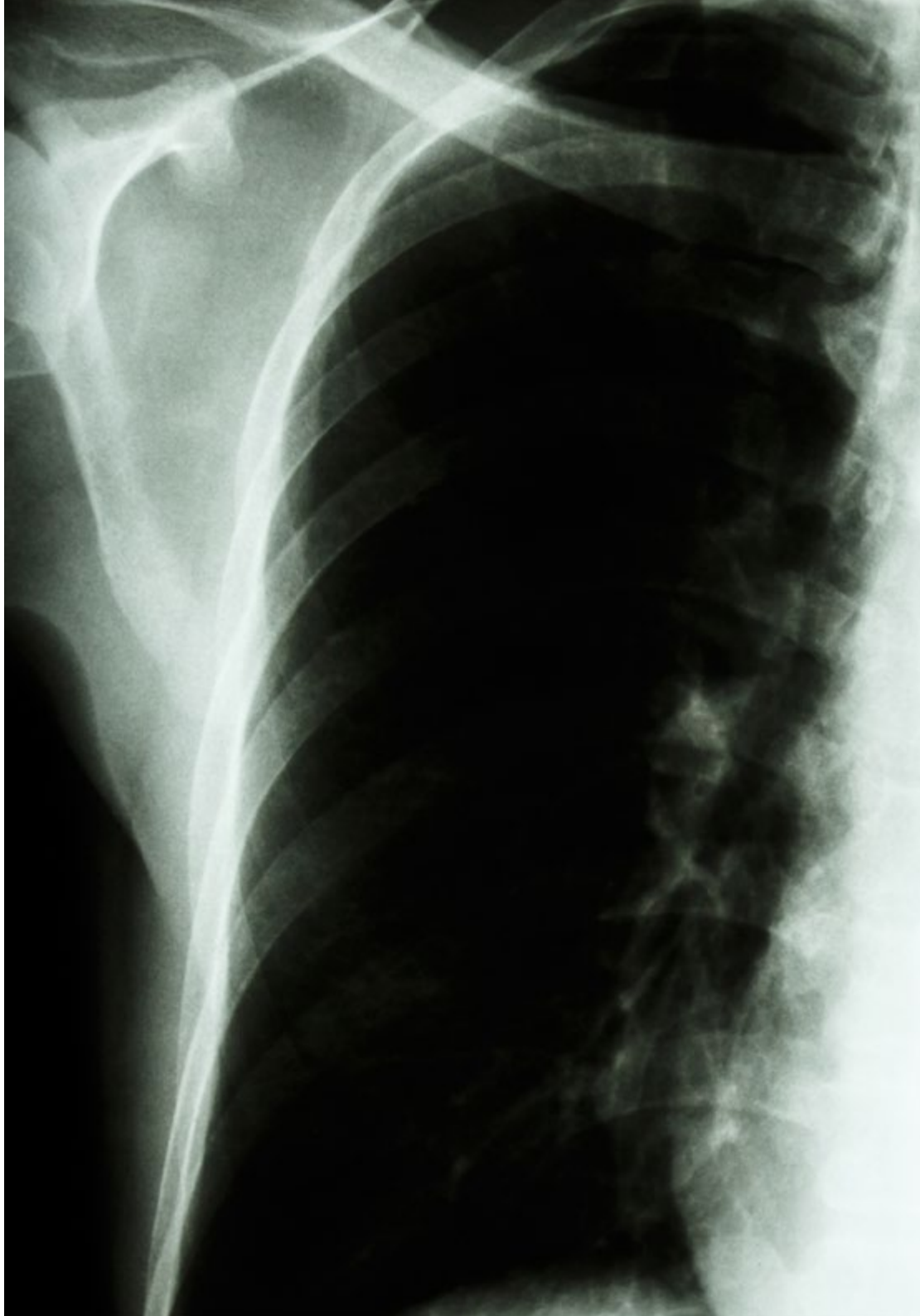
5.3. Rare Cervical Cancer
- 5.3.1. Adenocarcinoma
- 5.3.2. Non-HPV-Associated Cervical Cancer
- 5.3.3. Cervical Sarcomas

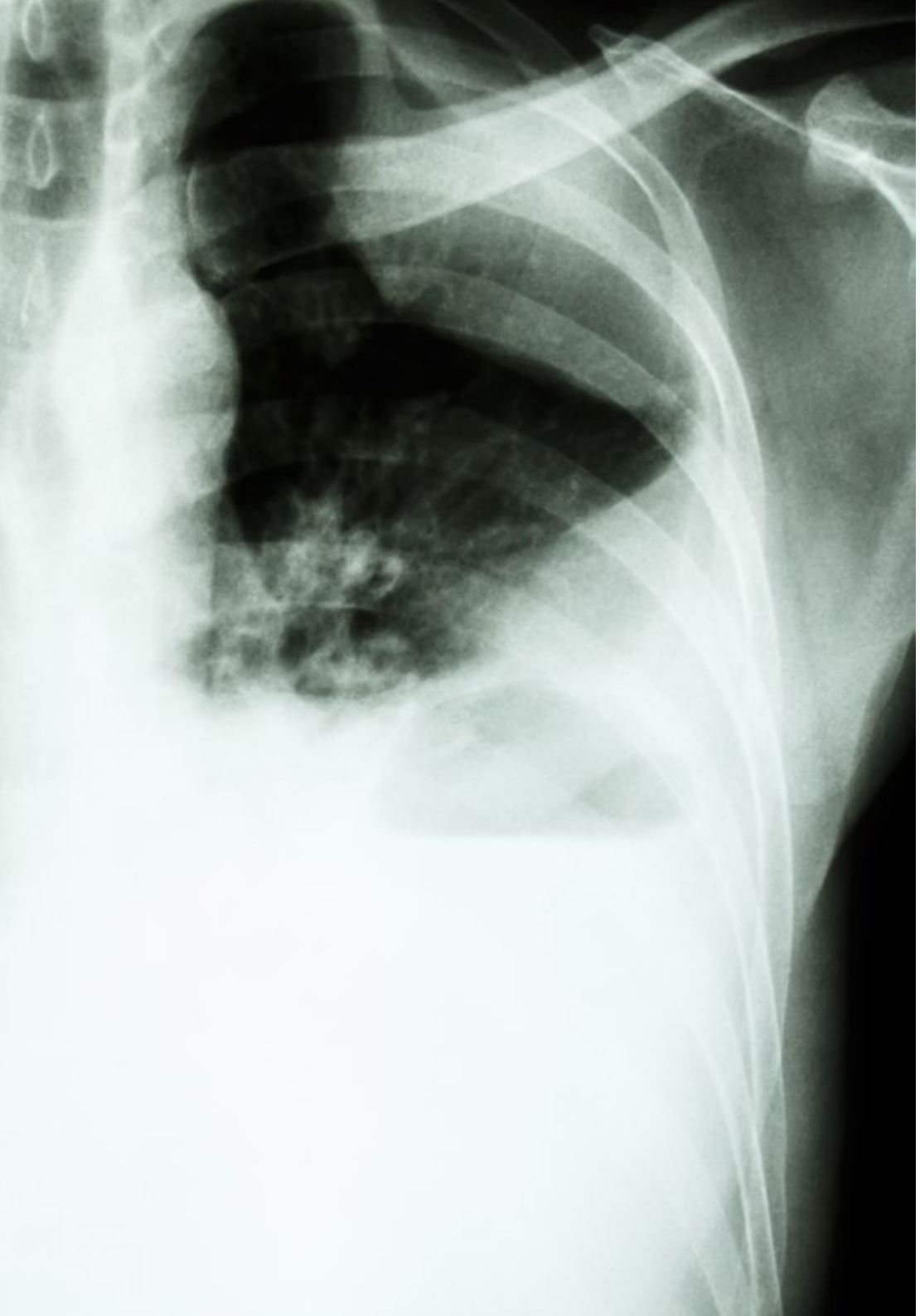
5.4. Other Rare Gynecologic Tumors
- 5.4.1. Vulvar Cancer
- 5.4.2. Vaginal Cancer

5.5. Rare Breast Tumors
- 5.5.1. Rare Breast Tumor Classification
- 5.5.2. Diagnostic and Therapeutic Aspects

5.6. Germ Cell Tumors
- 5.6.1. General Aspects: Etiology and Epidemiology
- 5.6.2. Clinical Aspects and Classification
- 5.6.3. Diagnostic and Therapeutic Aspects of Germ Cell Tumors

5.7. Low-Incidence Prostate Tumors
- 5.7.1. Adenocarcinoma with Histological Variants
  - 5.7.1.1. Adenocarcinoma NOS
  - 5.7.1.2. Acinar Cell Adenocarcinoma
  - 5.7.1.3. Mucinous Adenocarcinoma
  - 5.7.1.4. Signet Ring Adenocarcinoma
  - 5.7.1.5. Adenocarcinoma with Neuroendocrine Differentiation
  - 5.7.1.6. Oxyphilic Adenocarcinoma
  - 5.7.1.7. *Spindle Cell Adenocarcinoma*
  - 5.7.1.8. Lymphoepithelial Carcinoma
- 5.7.2. Squamous Cell Carcinoma with Histological Variants
  - 5.7.2.1. Squamous Carcinoma
  - 5.7.2.2. Adenosquamous Carcinoma
- 5.7.3. Infiltrating Ductal Carcinoma
  - 5.7.3.1. Cribriform Carcinoma
  - 5.7.3.2. Solid Carcinoma NOS
  - 5.7.3.3. Papillary Adenocarcinoma NOS





5.7.4. Transitional Cell Carcinoma
5.7.5. Salivary-Like Gland Tumors
5.7.5.1. Adenoid Cystic Carcinoma
5.7.5.2. Basaloid Carcinoma
5.7.5.3. Basal Cell Carcinoma
5.7.6. New Molecular Arrangement in Prostate Cancer
5.8. Rare Bladder and Upper Urinary Tract Tumors
5.8.1. Transitional Cell Carcinoma
5.8.2. Squamous Carcinoma with Variants
5.8.3. Adenocarcinoma with Variants
5.8.4. *Salivary-Like* Gland Tumors
5.8.5. Molecular Subtypes of Bladder Cancer
5.9. Rare Renal Tumors
5.9.1. General Aspects of Non-Clear Cell Renal Cancer
5.9.2. Epidemiology and Etiopathogenesis
5.9.3. Non-Clear Cell Renal Tumor Classification
5.9.4. Diagnosis and Treatment
5.10. Penile Cancer
5.10.1. Epidemiology and Etiopathogenesis
5.10.2. Clinical and Diagnostic Aspects
5.10.3. Penile Cancer Staging
5.10.4. Localized Disease
5.10.5. Locally Advanced and Metastatic Disease

Module 6. Hereditary Syndromes: From Biology to Clinical Application: Pediatric Tumors and Childhood Tumors in Adults

6.1. Hereditary Predisposition to Endocrine and Neuroendocrine Tumors
6.1.1. Clinical Aspects
6.1.2. Molecular Aspects
6.2. Familial Melanoma and Genodermatosis
6.2.1. General Aspects
6.2.2. Clinical Aspects
6.2.3. Molecular Aspects

6.3. Neurofibromatosis: Li Fraumeni Syndrome
- 6.3.1. General Aspects of Neurofibromatosis
- 6.3.2. Clinical Aspects
- 6.3.3. Molecular Aspects
- 6.3.4. General Aspects of Li Fraumeni Syndrome
- 6.3.5. Clinical Aspects
- 6.3.6. Molecular Aspects

6.4. Hereditary Syndromes in Children
- 6.4.1. General Aspects
- 6.4.2. Clinical Aspects
- 6.4.3. Molecular Aspects

6.5. General Aspects of Pediatric Cancer
- 6.5.1. Epidemiology and Etiopathogenesis
- 6.5.2. Clinical Aspects of Pediatric Cancer
- 6.5.3. Diagnostic and Therapeutic Aspects
- 6.5.4. Molecular Biology and its Application to Pediatric Cancer

6.6. Intraocular Tumors
- 6.6.1. Meduloepithelioma
- 6.6.2. Retinoblastoma

6.7. Eye Tumors in Children
- 6.7.1. Orbital Tumors
  - 6.7.1.1. Rhabdomyosarcoma
  - 6.7.1.2. Pleomorphic Adenoma of the Lacrimal Gland
  - 6.7.1.3. Orbital Metastases
- 6.7.2. Intraocular Tumors
  - 6.7.2.1. Rhabdomyosarcoma
  - 6.7.2.2. Pleomorphic Adenoma of Lacrimal Gland

6.8. Bone, Germinal and Other Pediatric Tumors
- 6.8.1. Ewing Sarcoma
- 6.8.2. Germinal Cell Tumors
- 6.8.3. Other Pediatric Tumors

6.9. Palliative Care in Children
- 6.9.1. Peculiar Aspects of PC in Children with Cancer

6.10. Childhood Tumors in Adults
- 6.10.1. General Aspects of Childhood Tumors in Adults
- 6.10.2. Developmental Tumor Classification
- 6.10.3. Diagnostic Aspects
- 6.10.4. Treatment Difficulties
- 6.10.5. New Approaches in the Management of Childhood Tumors in Adults: New Methodological Designs

Module 7. Musculoskeletal Tumors: Epithelial Cancer. Central Nervous System Tumors. Ocular Tumors

7.1. Bone and Soft Tissue Sarcomas: Classification, Characteristics, and Diagnostic Therapeutic Approach
- 7.1.1. General Information, Epidemiology
- 7.1.2. Etiopathogenesis and Classification
- 7.1.3. Clinical Aspects
- 7.1.4. Diagnostic and Therapeutic Aspects

7.2. Soft Tissue Sarcomas
- 7.2.1. Liposarcomas
- 7.2.2. Rhabdomyosarcoma
- 7.2.3. Leiomyosarcoma
- 7.2.4. Synovial Sarcoma
- 7.2.5. Angiosarcoma
- 7.2.6. Lymphangiosarcoma
- 7.2.7. Malignant Peripheral Nerve Sheath Tumor
- 7.2.8. Specific Soft Tissue Sarcomas
  - 7.2.8.1. Complex Karyotype Sarcomas
  - 7.2.8.2. Translocation-Specific Subtypes
  - 7.2.8.3. Developmental Sarcomas
  - 7.2.8.4. Alveolar Soft Tissue Sarcoma
  - 7.2.8.5. Clear Cell Sarcoma
  - 7.2.8.6. PEComa
  - 7.2.8.7. Solitary Fibrous Tumor

7.2.8.8. Inflammatory Myofibroblastic Tumor
7.2.8.9. Desmoplastic Round Cell Tumor
7.2.8.10. Mesenchymal Tumors with Locally Aggressive Behavior

7.3. Skeletal Sarcomas
7.3.1. Chondrosarcoma
7.3.2. Fibrosarcoma
7.3.3. Clear Cell Sarcoma
7.3.4. Chordoma

7.4. Visceral Sarcomas
7.4.1. General Aspects of Low-Incidence Visceral Sarcomas
7.4.2. Visceral Sarcoma Classification
7.4.3. Diagnostic and Therapeutic Aspects
7.4.4. Molecular Aspects

7.5. Central Nervous System Tumors: Classification, Characteristics and Therapeutic Diagnostic Approach
7.5.1. Classification
7.5.2. Epidemiology and Etiopathogenesis
7.5.3. General Clinical Features
7.5.4. Diagnostic Algorithm
7.5.5. Therapeutic Approach

7.6. Central Nervous System Tumors: Oligodendrogliomas and Diffuse Astrocytic Tumors: Ependymal Tumors. Choroid Plexus Tumors. Neuronal and Mixed Glial-Neuronal Tumors
7.6.1. Oligodendrogliomas and Diffuse Astrocytic Tumors
7.6.2. Ependymal Tumors
7.6.3. Choroid Plexus Tumors
7.6.4. Neuronal and Mixed Glial-Neuronal Tumors

7.7. Pineal Region Tumors: Embryonal Tumors. Central Nervous System Lymphomas. Germinal Cell Tumors. Selar Region Tumors. Miscellaneous
7.7.1. Pineal Region Tumors
7.7.2. Embryonal Tumors
7.7.3. Central Nervous System Lymphomas
7.7.4. Germinal Cell Tumors
7.7.5. Selar Region Tumors
7.7.6. Miscellaneous

7.8. Malignant Skull Base Tumors: Craniopharyngioma and Solitary Fibrous Tumor/ Hemangiopericytoma
7.8.1. Chordomas
7.8.2. Chondrosarcomas
7.8.3. Craniopharyngioma
7.8.4. Solitary Fibrous Tumor: Hemangiopericytoma

7.9. Skin and Appendage Tumours
7.9.1. Classification, Characteristics and Therapeutic Diagnostic Approach
7.9.2. Tumors Originating in Benign Structures
7.9.2.1. Porocarcinoma
7.9.2.2. Hydradenocarcinoma
7.9.2.3. Spiradenocarcinoma
7.9.2.4. Cylindrocarcinoma
7.9.3. Analogous Glandular Tumors
7.9.3.1. Adenoid Cystic Carcinoma
7.9.3.2. Secretor Carcinoma
7.9.3.3. Apocrine Carcinoma
7.9.3.4. Cribriform Carcinoma
7.9.3.5. Malignant Mixed Tumor
7.9.3.6. Malignant Myoepithelioma
7.9.4. Hair Follicular Differentiation Tumors
7.9.4.1. Trichilemmal Carcinoma
7.9.4.2. Pilomatrical Carcinoma
7.9.5. Tumors Originating in the Facial Area
7.9.5.1. Mucinous Carcinoma
7.9.5.2. Histiocytoid Carcinoma
7.9.5.3. Endocrine Mucin-Producing Sweat Gland Carcinoma
7.9.6. Cutaneous Sarcoma
7.9.6.1. Atypical Fibroxanthoma
7.9.6.2. Angiosarcoma
7.9.6.3. Dermatofibrosarcoma Protuberans
7.9.6.4. Non-HIV Kaposi's Sarcoma, Other Sarcomas

7.9.7. Miscellaneous
7.9.7.1. Microcystic Adrenal Carcinoma
7.9.7.2. Adenosquamous Carcinoma
7.9.7.3. Adenocarcinoma
7.10. Eye Tumors in Adults
7.10.1. Eyelid Tumors
7.10.2. Basal Cell Carcinoma
7.10.3. Epidermoid Carcinoma
7.10.4. Keratoacanthoma
7.10.5. Lentigo Maligna Melanoma
7.10.6. Conjunctival Tumors
7.10.7. Conjunctival Squamous Neoplasia
7.10.8. Conjunctival Melanoma
7.10.9. Anterior Uveal Melanoma: Iris Melanoma
7.10.10. Posterior Uveal Melanoma: Choroidal Melanoma
7.10.11. Choroidal Metastases
7.10.12. Orbital Metastases

Module 8. Agnostic Tumors

8.1. Treatment Agnostic Concept: New Entities in Oncology
8.1.1. Concepts
8.1.2. Agency-Approved Tumor-Agnostic Therapies
8.1.3. Tumor-Agnostic Therapies in Development
8.2. Neurotrophic Tyrosine Receptor Kinase (NTRK) Family
8.2.1. NTRK Structure and Function
8.2.2. Algorithm for Identifying Patients with TRK Fusions
8.2.3. Clinical Spectrum of NTRK-Fused Tumors
8.3. NTRK Inhibitor Treatment
8.3.1. General Aspects
8.3.2. Indications
8.3.3. Pivotal Trial Results
8.3.4. Clinical Practice Results
8.3.5. NTRK Inhibitor Toxicity
8.4. Microsatellite Instability Tumors
8.4.1. Microsatellite Instability Significance
8.4.2. Algorithm for Identifying Patients with Microsatellite Instability
8.4.3. Clinical Spectrum of Unstable Tumors
8.5. Microsatellite Instability Tumor Treatment
8.5.1. General Aspects
8.5.2. Indications
8.5.3. Pivotal Trial Results
8.5.4. Clinical Practice Results
8.6. Towards Tumor-Agnostic Therapy in Thoracic and Head and Neck Tumors
8.6.1. General Aspects
8.6.2. Indications and Results
8.6.3. Toxicity
8.7. Towards Tumor-Agnostic Therapy in Digestive System Tumors
8.7.1. General Aspects
8.7.2. Indications and Results
8.7.3. Toxicity
8.8. Towards Tumor-Agnostic Therapy in Urologic and Gynecologic Tumors
8.8.1. General Aspects
8.8.2. Indications and Results
8.8.3. Toxicity
8.9. Towards Tumor-Agnostic Therapy in CNS Tumors
8.9.1. General Aspects
8.9.2. Indications and Results
8.9.3. Toxicity
8.10. The Development of Tumor-Agnostic Therapy in Other Tumors
8.10.1. General Aspects
8.10.2. Indications and Results
8.10.3. Toxicity

Module 9. Cancer of Unknown Primary

9.1. CUP Introduction and Epidemiology
- 9.1.1. Incidence
- 9.1.2. Prevalence
- 9.1.3. Prognosis
- 9.1.4. Risk Factors

9.2. Clinical Spectrum of the Disease
- 9.2.1. Classification
- 9.2.2. Subgroups of Patients According to their Presentation

9.3. Anatomopathological Aspects of the Disease
- 9.3.1. General Considerations
- 9.3.2. Histology
- 9.3.3. Recommended Immunohistochemical Profiles

9.4. CUP Diagnosis
- 9.4.1. Recommended Diagnostic Tests
- 9.4.2. Role of PET-CT
- 9.4.3. Diagnostic Algorithm

9.5. Cancer of Unknown Primary in the Molecular Era
- 9.5.1. Paradigm Shift
- 9.5.2. Molecular Profiles Oriented to Anatomical Origin
- 9.5.3. Molecular Profiling Aimed at Identifying Genomic Alterations

9.6. Classic CUP Treatment
- 9.6.1. Good Prognosis Subgroup
- 9.6.2. Poor Prognosis Subgroup

9.7. Targeted Therapy in the Molecular Era
- 9.7.1. Paradigm Shift: From Clinical to Molecular Biology
- 9.7.2. Molecular Profiles Oriented to Tumor Origin
- 9.7.3. Molecular Profiles Oriented to Therapeutic Targets

9.8. Clinical Trials: New Designs

9.9. Role of Tumor Registries: Clinical and Molecular Committees
- 9.9.1. Tumor Registries
- 9.9.2. Biobanks
- 9.9.3. Clinical and Molecular Committees

9.10. Guide Recommendations

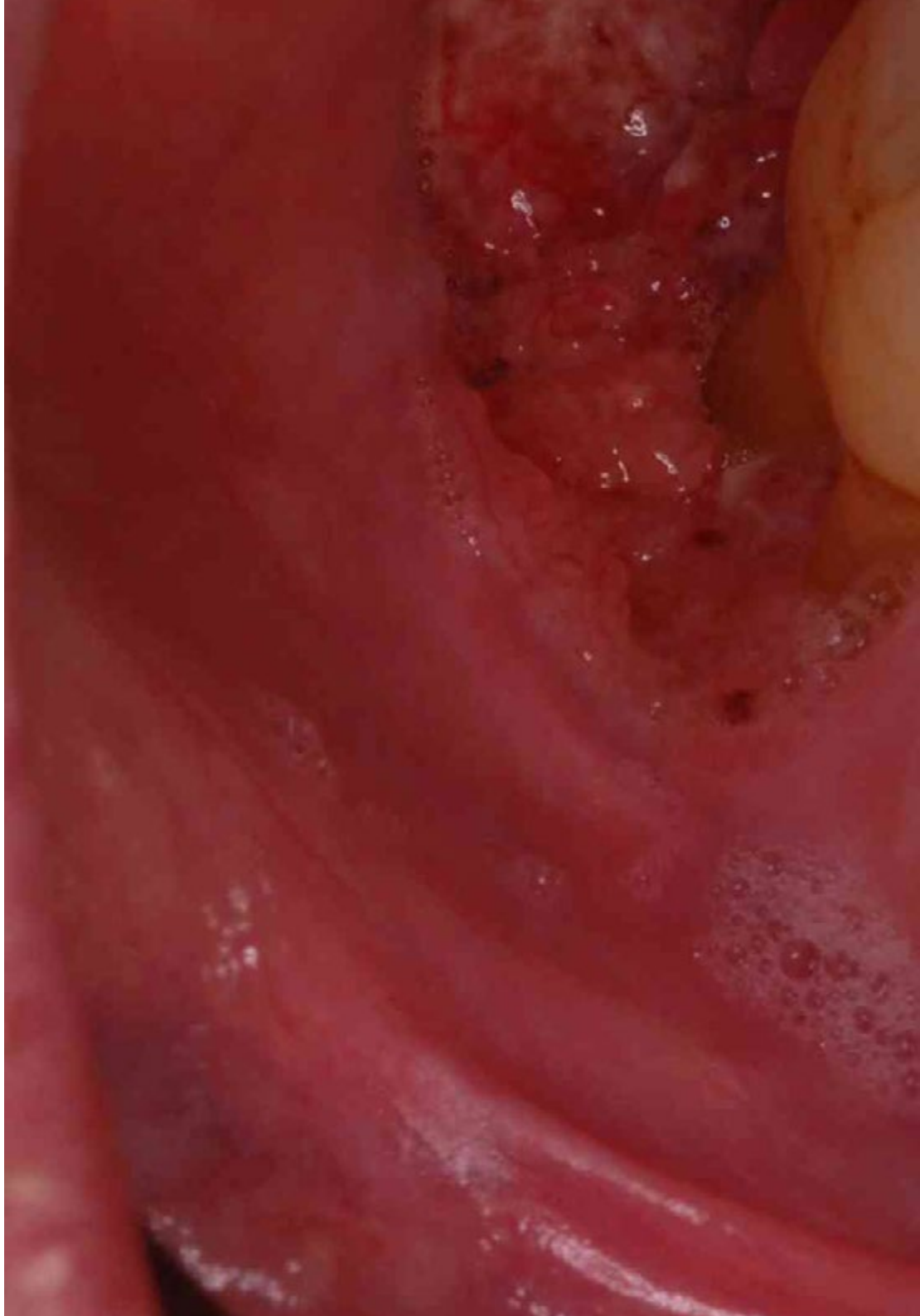
Module 10. Supportive Treatment, Antineoplastic Treatment Toxicity Control, Palliative Care and Care of Long-Term Survivorswith Low-Incidence Tumors

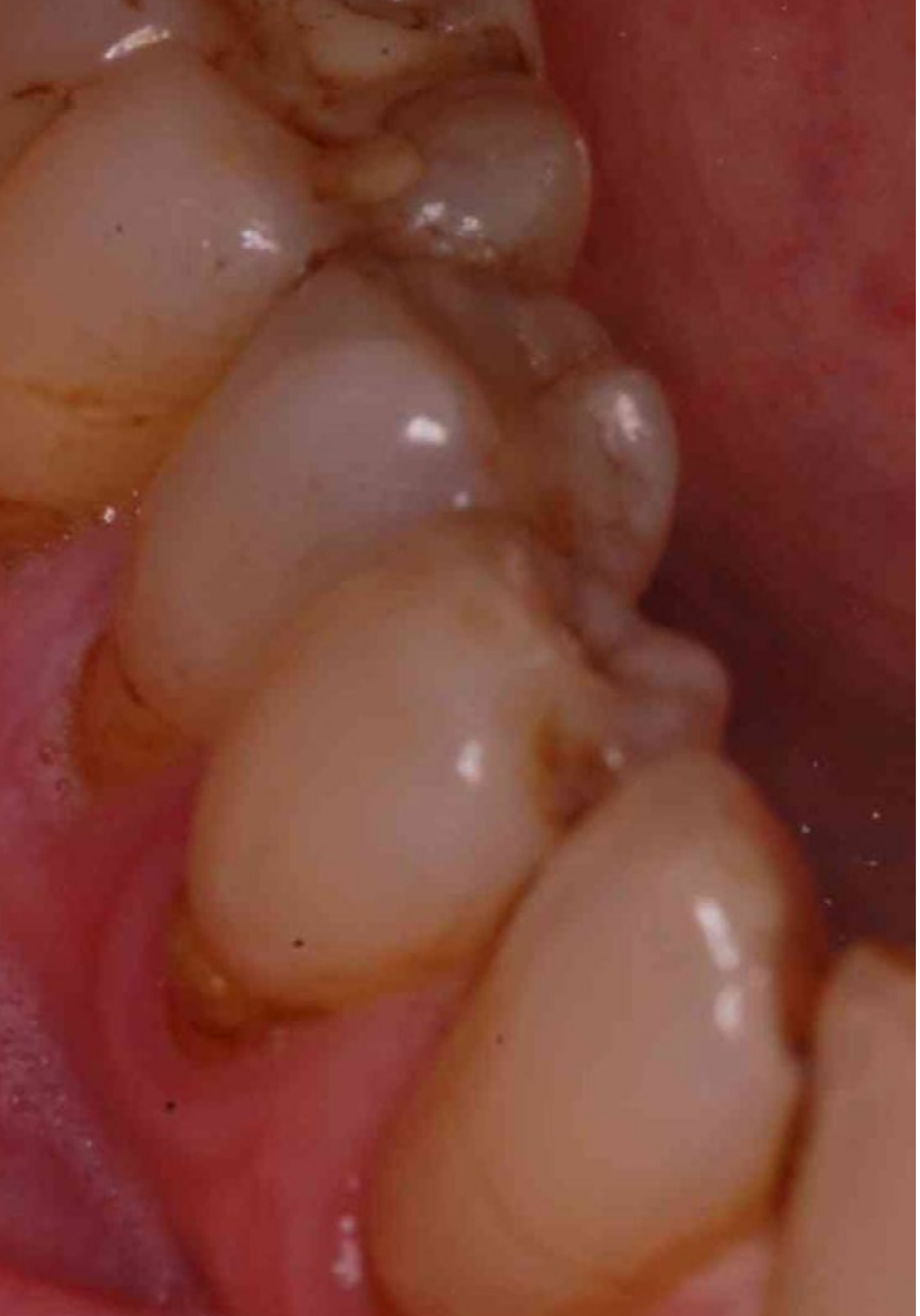
10.1. Increased Survival and Quality of Life Associated with Supportive Care in Cancer Patients
- 10.1.1. Quality of Life Evaluation in Oncology
- 10.1.2. Impact of Supportive Care Treatment on Quality of Life
- 10.1.3. Impact of Supportive Care Treatment on Survival

10.2. Treatment of Oncologic Pain and its Associated Symptoms
- 10.2.1. Baseline Pain in Cancer Patients
- 10.2.2. Incidental Pain in Cancer Patients
- 10.2.3. Types of Pain: Somatic, Visceral and Neuropathic
- 10.2.4. Diagnostic Pain Assessment
- 10.2.5. Pain Treatment: 1st and 2nd Step
- 10.2.6. Opioid Treatment: Opioid Rotation
- 10.2.7. Opioid Treatment Toxicity
- 10.2.8. Adjuvant Drugs
- 10.2.9. Intervention Techniques
- 10.2.10. Non-Pharmacological Techniques

10.3. Antineoplastic Treatment Toxicity: Chemotherapy.
- 10.3.1. Chemotherapy Mechanism of Action
- 10.3.2. Chemotherapy Toxicity Assessment
- 10.3.3. Most Common Toxicities
  - 10.3.3.1. Digestive Toxicity
  - 10.3.3.2. Skin and Mucosal Toxicity

10.3.3.3. Hematological Toxicity
10.3.3.4. Neurotoxicants
10.3.3.5. Cardiotoxicity
10.3.3.6. Nephrotoxicity
10.4. Antineoplastic Treatment Toxicity: Targeted Therapy
10.4.1. Mechanism of Action of Targeted Therapies
10.4.2. Toxicity Assessment of Targeted Therapy
10.4.3. Most Common Toxicities
10.4.3.1. Digestive Toxicity
10.4.3.2. Skin and Mucosal Toxicity
10.4.3.3. Hematological Toxicity
10.4.3.4. Toxic Hypertension Management
10.4.3.5. Cardiotoxicity
10.4.3.6. Thrombotic Events
10.5. Antineoplastic Treatment Toxicity: Immunotherapy
10.5.1. Immunotherapy Mechanism of Action
10.5.2. Immunotherapy Toxicity Assessment
10.5.3. Most Common Toxicities
10.5.3.1. Digestive Toxicity
10.5.3.2. Skin and Mucosal Toxicity
10.5.3.3. Respiratory Toxicity
10.5.3.4. Neurological Toxicity
10.5.4. Toxicity in Special Populations
10.6. Severe Toxicity of Oncological Treatment: Admission Criteria for Cancer Patients in the ICU
10.6.1. Severe Toxicity Spectrum in Patients Treated with Immunotherapy
10.6.2. Retreatments after Treatment-Limiting Toxicity
10.6.3. Cytokine Storm Syndrome
10.6.4. Severe Neurological Toxicity
10.6.5. Severe Respiratory Toxicity
10.6.6. Aspects Related to Admission to Intensive Care Units in Cancer Patients





10.7. End-of-Life Care. Concepts Associated with Terminal Patients. Palliative Sedation.
- 10.7.1. Care Models for Palliative Care Patients
- 10.7.2. Terminal Illness Concept
- 10.7.3. Major End-of-Life Syndromes
- 10.7.4. Agony Diagnosis: Situation in the Final Days
- 10.7.5. Palliative Sedation

10.8. Long-Term Cancer Survivors: Monitoring Programs
- 10.8.1. Introduction and Definition of the Long-Term Cancer Survivor Concept
- 10.8.2. Survival Rates and Estimated Number of Long-Term Cancer Survivors
- 10.8.3. Monitoring Models of Long-Term Cancer Survivors

10.9. Long-Term Cancer Survivors: Most Common Consequences
- 10.9.1. Identification of Long-Term Survivors' Specific Problems
- 10.9.2. Healthcare and Non-Healthcare Demand

10.10. Special Situations: Long-Term Survivors with Disease, Long-Term Child and Adolescent Survivors
- 10.10.1. Sick Patients and Long-Term Survivors
- 10.10.2. Long-Term Surviving Teenager

This program will allow you to advance comfortably in your career"

06

Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning.**
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.

According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.

Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method"

The effectiveness of the method is justified by four fundamental achievements:

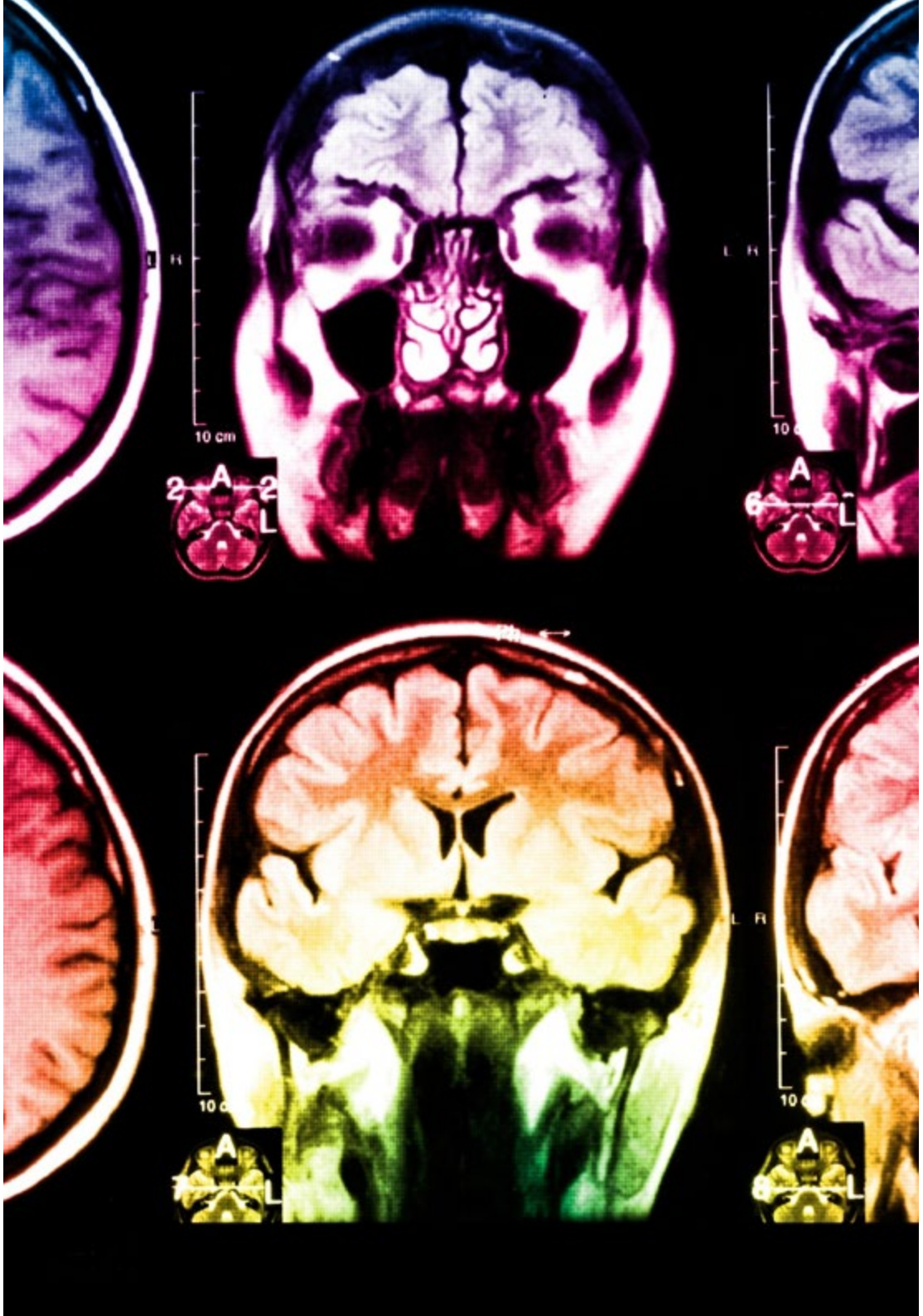
1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.

Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

Professionals will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.



At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.

This program offers the best educational material, prepared with professionals in mind:

Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then adapted in audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high-quality pieces in each and every one of the materials that are made available to the student.

Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.

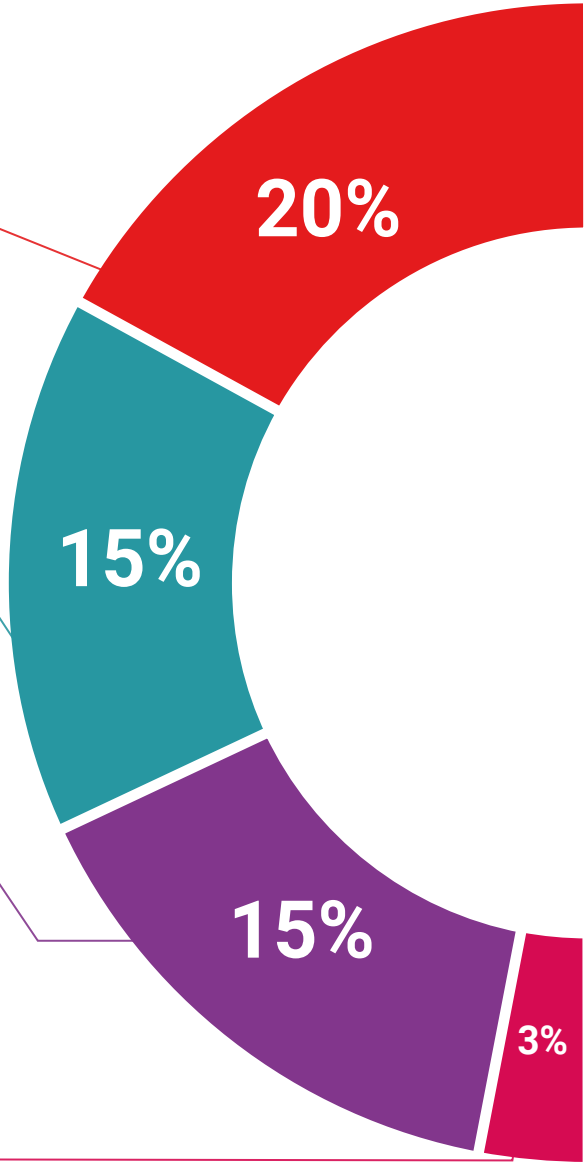
Interactive Summaries

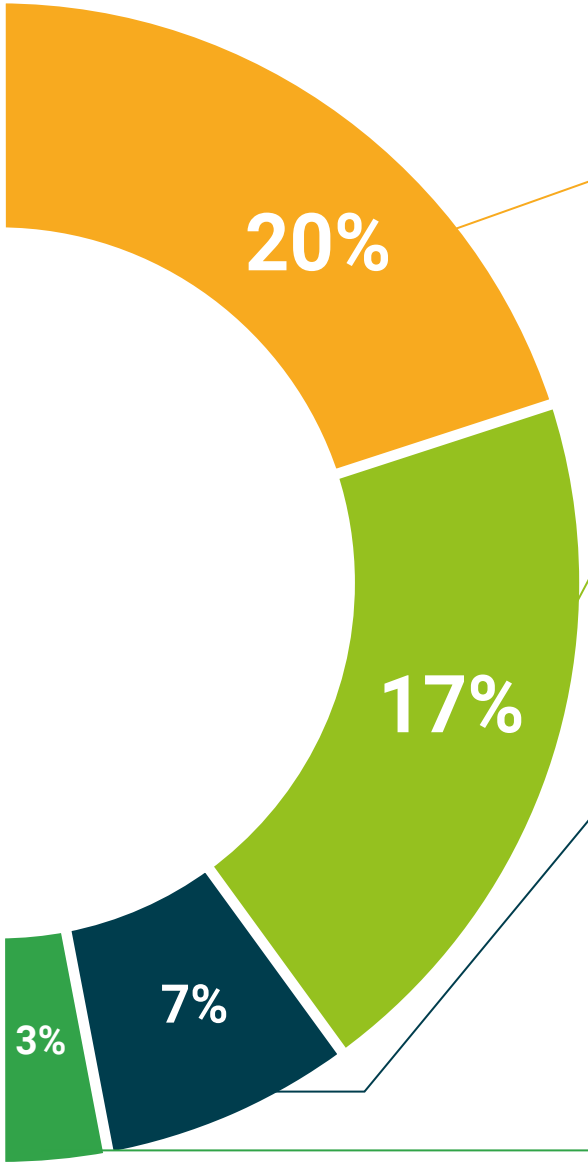
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.

Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.

Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.

07

Certificate

This Professional Master's Degree in Cancer of Unknown Primary guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional Master's Degree issued by TECH Technological University.

Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"

This **Professional Master's Degree in Cancer of Unknown Primary** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Professional Master's Degree** diploma issued by **TECH Technological University** via tracked delivery*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the **Professional Master's Degree**, and meets the requirements commonly demanded by job exchanges, competitive examinations, and professional career evaluation committees.

Title: **Professional Master's Degree in Cancer of Unknown Primary**

Official Nº of Hours: **1,500 h.**

Endorsed by: Spanish Group of Transversal Oncology and Orphan and Rare Tumors

tech technological university

Awards the following

CERTIFICATE

to

Mr./Ms. _____, with identification number _____.

For having successfully passed and accredited the following program

PROFESSIONAL MASTER'S DEGREE

in

Cancer of Unknown Primary

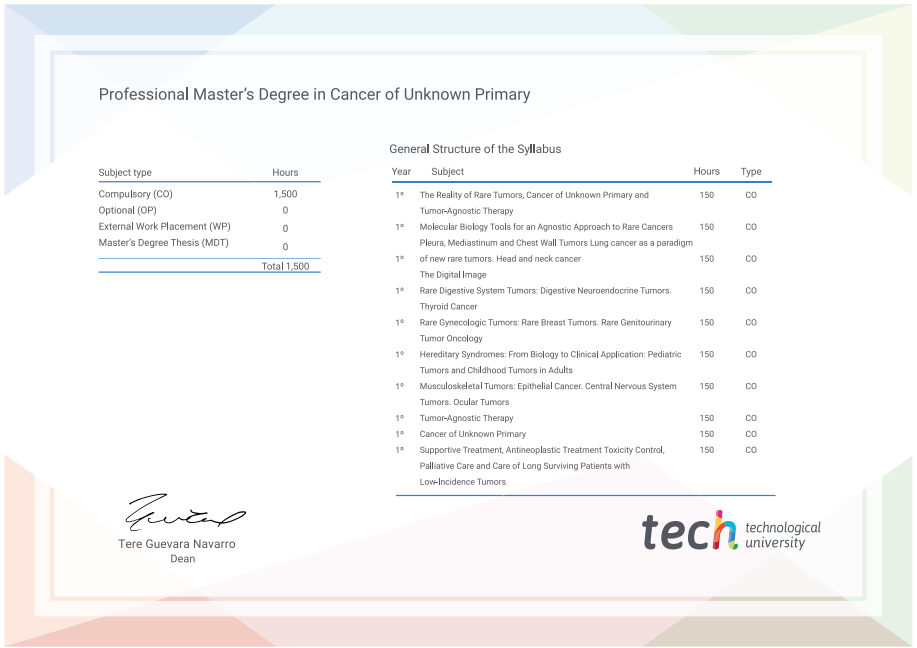
This is a qualification awarded by this University, equivalent to 1,500 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro
Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates



Professional Master's Degree in Cancer of Unknown Primary

Subject type	Hours
Compulsory (CO)	1,500
Optional (OP)	0
External Work Placement (WP)	0
Master's Degree Thesis (MDT)	0
	Total 1,500

General Structure of the Syllabus

Year	Subject	Hours	Type
1º	The Reality of Rare Tumors, Cancer of Unknown Primary and Tumor-Agnostic Therapy	150	CO
1º	Molecular Biology Tools for an Agnostic Approach to Rare Cancers	150	CO
1º	Pleura, Mediastinum and Chest Wall Tumors Lung cancer as a paradigm of new rare tumors. Head and neck cancer	150	CO
1º	The Digital Image	150	CO
1º	Rare Digestive System Tumors: Digestive Neuroendocrine Tumors. Thyroid Cancer	150	CO
1º	Rare Gynecologic Tumors: Rare Breast Tumors. Rare Genitourinary Tumor Oncology	150	CO
1º	Hereditary Syndromes: From Biology to Clinical Application: Pediatric Tumors and Childhood Tumors in Adults	150	CO
1º	Musculoskeletal Tumors: Epithelial Cancer. Central Nervous System Tumors. Ocular Tumors	150	CO
1º	Tumor-Agnostic Therapy	150	CO
1º	Cancer of Unknown Primary	150	CO
1º	Supportive Treatment, Antineoplastic Treatment Toxicity Control, Palliative Care and Care of Long Surviving Patients with Low-Incidence Tumors	150	CO

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Dean

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*Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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Professional Master's Degree

Cancer of Unknown Primary

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Technological University**
- Dedication: **16h/week**
- Schedule: **at your own pace**
- Exams: **online**

Professional Master's Degree

Cancer of Unknown Primary

Endorsed by:

GETTHI

tech technological university