

GOALS AND OBJECTIVES FOR ONCOLOGY

Oncology

Overview:

Medical Oncology involves the diagnosis and management of cancer, with an emphasis on solid tumors (in contrast to leukemia and multiple myeloma). Predicated on a firm foundation of Internal Medicine, Medical Oncology requires the acquisition of detailed understanding of the biology of normal and abnormal cellular growth and growth regulation, invasion and metastasis, clinical trial design, biochemical pharmacology, molecular biology, and clinical diagnosis and management of all forms of cancer. As many patients with cancer have associated histories of cigarette smoking, alcohol intake, and industrial toxin exposure, they are frequently beset by a range of intercurrent medical disorders requiring a broad-ranging and detailed approach to their clinical care needs.

The emotional and social problems associated with advanced cancer require multidisciplinary management and a team approach in addition to a detailed understanding of psycho-social and psychosomatic issues. As a result, this is a relatively unique subspecialty that integrates clinical and holistic medicine with biochemistry, molecular biology, and clinical trial statistics.

The goals of the rotation in Medical Oncology are to familiarize residents with the diagnosis and management of common malignancies, the role of the different treatment modalities, the toxicities of anti-cancer therapies, the development of new anti-cancer agents, the basics of clinical trial design, the interpretation of the cancer literature, the risk factors associated with the development of cancer, the techniques for cancer risk reduction, the effectiveness of cancer screening techniques, and the techniques of palliative and symptom management.

Clinical Training and Education in Medical Oncology

The educational program of the Division of Medical Oncology involves (a) specific training in Medical Oncology, and (b) integrated multidisciplinary educational sessions with staff of the USC-Norris Comprehensive Cancer Center and of other Departments and Divisions of the Schools of Medicine and Pharmacy.

Focused Education in Medical Oncology:

1. Bedside/clinic teaching that involves decisions in diagnosis and management of patients with cancer. The program covers the specifics of diagnosis (including interpretation of biochemical and hematologic tests, molecular markers, and radiologic investigations) and management (surgery, radiation, chemotherapy, immunotherapy, gene therapy, and new anti-cancer drug development); at LAC + USC Medical Center, teaching is carried out before and after ward rounds (daily), and in association with routine clinics (Monday am, Tuesday pm, Thursday pm); at Norris Comprehensive Cancer Center, oncology faculty provide specific small group teaching based on the spectrum of diagnostic and management problems seen on the inpatient services.

ORGAN AND SYSTEM COMPETENCIES IN INTERNAL MEDICINE

Clinical Training and Education in Medical Oncology (Cont'd):

2. Formal small group teaching sessions each week (Fridays at 8:30 am and 2pm) with Derek Raghavan, MD, Ph.D, Chief of the Division of Medical Oncology, covering topics required for Boards in Internal Medicine and Medical Oncology; two sessions are presented, allowing participation by fellows and residents at Norris Comprehensive Cancer Center and at LAC + USC Medical Center.
3. Protocol meetings: These sessions, held each month, involve presentations of novel treatment protocols by Oncology Fellows, in association with staff of the Clinical Investigation Support Office (including biostatisticians, research nurses, and data managers); these sessions are designed to elucidate issues in trial design as well as areas of development in technology and management in oncology.

Multidisciplinary Education in Medical Oncology:

1. Tumor Boards/ Conferences: Multidisciplinary tumor conferences are held on a weekly basis for the LAC+USC Medical Center and Norris Comprehensive Cancer Center, covering a range of topics, including breast cancer, lung cancer, genitourinary malignancy and gastrointestinal cancers. These involve presentations of complex cases, clinical trials, and didactic teaching.
2. Grand rounds, Norris Comprehensive Cancer Center: A weekly formal lecture (Tuesday at 12pm) is presented, covering recent developments in tumor biology, molecular biology, clinical trial design, or new techniques in diagnosis and management. Speakers are drawn from USC and from other cancer centers.

Common Clinical Presentations:

- Anemia
- Ascites
- Bleeding
- Bowel obstruction
- Cough, hoarseness, hemoptysis
- Lymphadenopathy, soft tissue mass
- Organ enlargement, mass
- Pleural or peritoneal effusion of unknown cause
- Sensory polyneuropathy
- Superior vena cava syndrome
- Weight loss

Procedure Skills:

- Bone marrow aspiration and biopsy (optional)
- Fine-needle aspiration of thyroid and breast (optional)
- Intrathecal chemotherapy (optional)

ORGAN AND SYSTEM COMPETENCIES IN INTERNAL MEDICINE

Clinical Training and Education in Medical Oncology (Cont'd):

Ordering and Understanding Tests:

- Biopsy
- Bone marrow cytogenetics, immunophenotyping
- Cytology and pathology
- Diagnostic and interventional radiology
- DNA content and molecular markers of tumor tissue
- Estrogen and progesterone receptors
- Fiberoptic examinations
- Imaging studies, including computed tomography and magnetic resonance imaging nuclear studies
- Serologic markers for tumors
- Ultrasound

Clinical Conditions:

Advance planning and management of end-of-life issues

Breast cancer (pre-and post-menopausal)

Dermatologic

- Basal cell carcinoma
- Melanoma
- Actinic keratosis
- Squamous cell carcinoma

Gastrointestinal

- Cancer of the colon, rectum
- Cancer of the anus
- Cancer of the esophagus
- Cancer of the pancreas
- Cancer of the stomach
- Hepatoma
- Metastatic disease to various sites
- Cancer of the gallbladder, bile ducts

Genitourinary

- Cervical dysplasia and cancer
- Prostate cancer
- Endometrial cancer
- Kidney cancer
- Ovarian cancer
- Testicular cancer
- Ureter, bladder cancer

ORGAN AND SYSTEM COMPETENCIES IN INTERNAL MEDICINE

Clinical Training and Education in Medical Oncology (Cont'd):

Head and neck

- Cancer of the head, neck
- Cancer of the thyroid
- Cancer of the parathyroid

Hematologic malignancies and lymphoma

- Chronic lymphocytic leukemia
- Hodgkin's and non-Hodgkin's lymphomas
- Leukemia, acute
- Multiple myeloma
- Myelodysplastic syndrome

Management of pain, emesis, and nutrition

Neurologic

- CNS lymphoma
- Metastatic disease to the CNS
- Primary brain tumors

Oncologic emergencies

- Depressed CNS function due to brain malignancy
- Hypercalcemia
- Pericardial tamponade
- Renal failure due to ureteral obstruction
- Spinal cord compression
- Tumor lysis syndrome

Pulmonary

- Cancer of the lung
- Superior vena cava syndrome
- Mediastinal tumors
- Pleural malignancy
- Bronchial carcinoid