

Medical Oncology

Role of Internist

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Introduction

- Oncology is a **specialty within the field of internal medicine**
- It focuses on the **study and treatment of malignant diseases.**

Oncologist

- A doctor who practices oncology
- Specialises in studying, diagnosing, and treating cancer
- Do patient care from the moment of diagnosis through the course of the disease

Oncologist

- Explain diagnosis, staging of disease, various treatment option, recommend best course, deliver optimum care and quality of life

Oncology: subspecialties

- Radiology
- Anatomical pathology
- Radiation oncology
- Surgical oncology
- Gynecologic oncology
- Pediatric oncology
- **Medical oncology:**
Treatment primarily with drugs, chemotherapy, hormonal therapy, and targeted therapy.

Internist

- An internist, also called a **general internist** or **doctor of internal medicine**
- Specializes in the diagnosis and medical treatment of adults.

Internist

- Provide longterm, comprehensive care including intensive care
- Manage common and complex diseases
- Serve as a primary care physician or as a consultant to other medical specialists

Internist

- Also involved in research and teaching
- Coordinate treatment when other specialists are involved in a patient's care

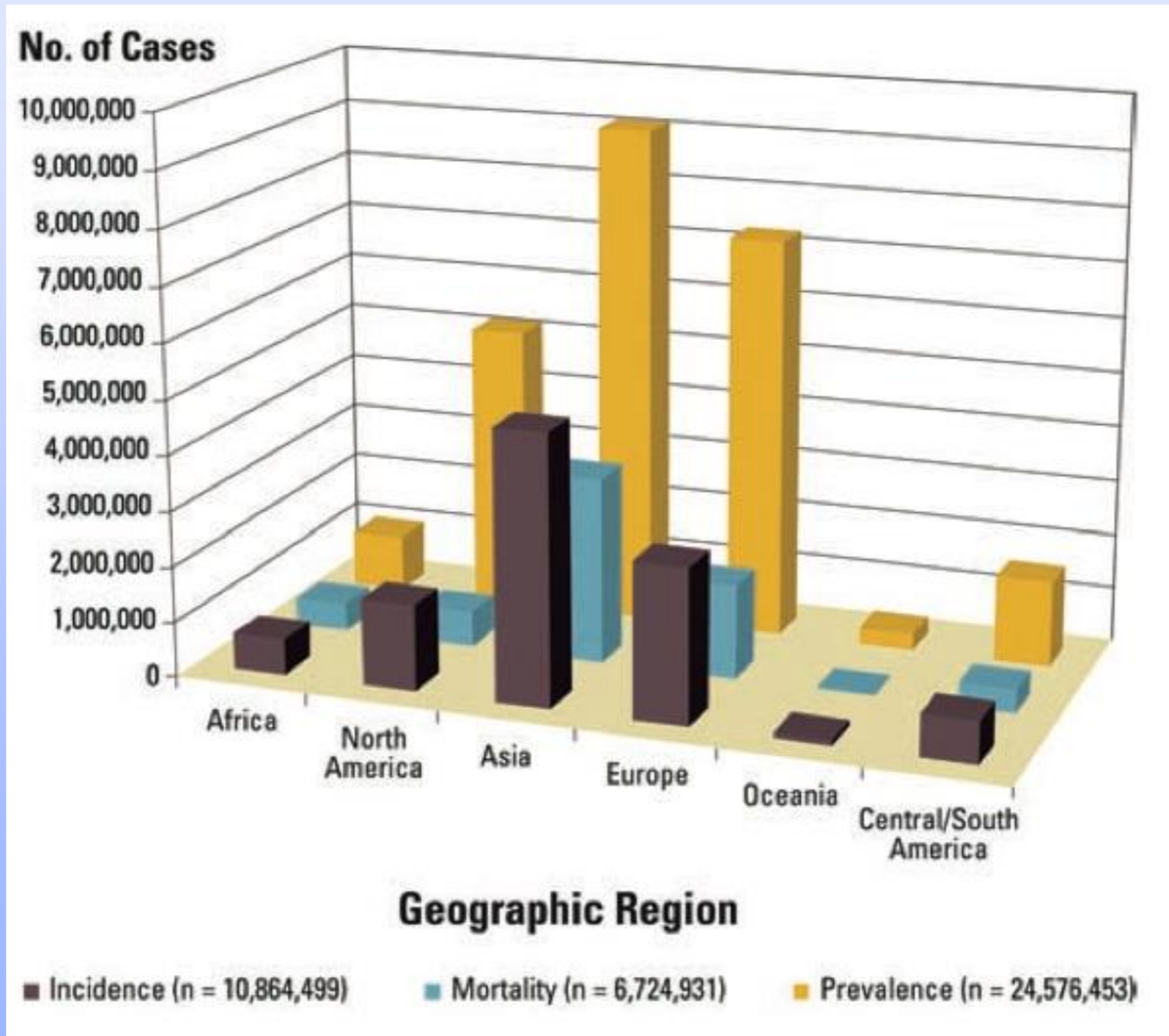
Cancer epidemiology

- Cancer is a significant global health problem
- **Worldwide incidence: 10 m new cases/year**
- 46% of which are in developed countries
- More than **7 million deaths** per year

Distribution by region

- ~45% of cases in Asia
- 26% in Europe
- 14.5% in North America
- 7.1% in Central/South America
- 6% in Africa
- 1% in Australia/New Zealand

Worldwide overall annual cancer incidence, mortality and 5-year prevalence for the period of 1993–2001. (From Kamangar et al.)



Cancer epidemiology

Men: 44%

Women: 38%

At risk of developing cancer at some
time during their lives

Risk factors

Age: most significant risk factor

2/3 of all cases: older than 65 years

Incidence increases: as 3rd, 4th or 5th

power of age

Modifiable risk factors

- Smoking
- Alcohol consumption
- Obesity
- Physical inactivity,
- Low fruit & vegetable consumption
- Unsafe sex
- Air pollution
- Indoor smoke from household fuels
- Contaminated injections

Cancer epidemiology

- **Lung cancer:** most common cancer, most common cause of cancer death
- **Breast cancer:** Second most common cancer, fifth cause of cancer death

Other 8 most common cancer

Developed countries

- Lung: 2 fold
- Breast: 3 fold
- Prostate: 2.5 fold
- Colorectal: 3 fold

Developing countries

- Liver: 2 fold
- Cervical: 2 fold
- Esophageal: 2-3 fold

Stomach cancer: similar in developed & developing countries

The Five Leading Primary Tumor Sites for Patients Dying of Cancer Based on Age and Sex in 2007

Rank		All Ages	Age, years				
			Under 20	20–39	40–59	60–79	>80
1	M	Lung	Leukemia	Leukemia	Lung	Lung	Lung
	F	Lung	Leukemia	Breast	Breast	Lung	Lung
2	M	Prostate	CNS	CNS	Colorectal	Colorectal	Prostate
	F	Breast	CNS	Cervix	Lung	Breast	Colorectal
3	M	Colorectal	Bone sarcoma	Colorectal	Liver	Prostate	Colorectal
	F	Colorectal	Endocrine	Leukemia	Colorectal	Colorectal	Breast
4	M	Pancreas	Endocrine	Lymphoma	Pancreas	Pancreas	Bladder
	F	Pancreas	Bone sarcoma	Colorectal	Ovary	Pancreas	Pancreas
5	M	Leukemia	Soft tissue sarcoma	Lung	Esophagus	Esophagus	Pancreas
	F	Ovary	Soft tissue sarcoma	CNS	Pancreas	Ovary	Lymphoma

How the cancer is diagnosed?

- Complete history
- Thorough physical examination
- Bed side procedures/screening
- Appropriate investigation

How the cancer is diagnosed?

Role of internist in diagnosis

- 1st contact person?
- Strategical position of internist
- Wide knowledge & experience to formulate diagnosis
- In a position to perform simple bed side technique
- The primary role of the internist is to use all the available techniques for the early detection of cancer

How the cancer is diagnosed?

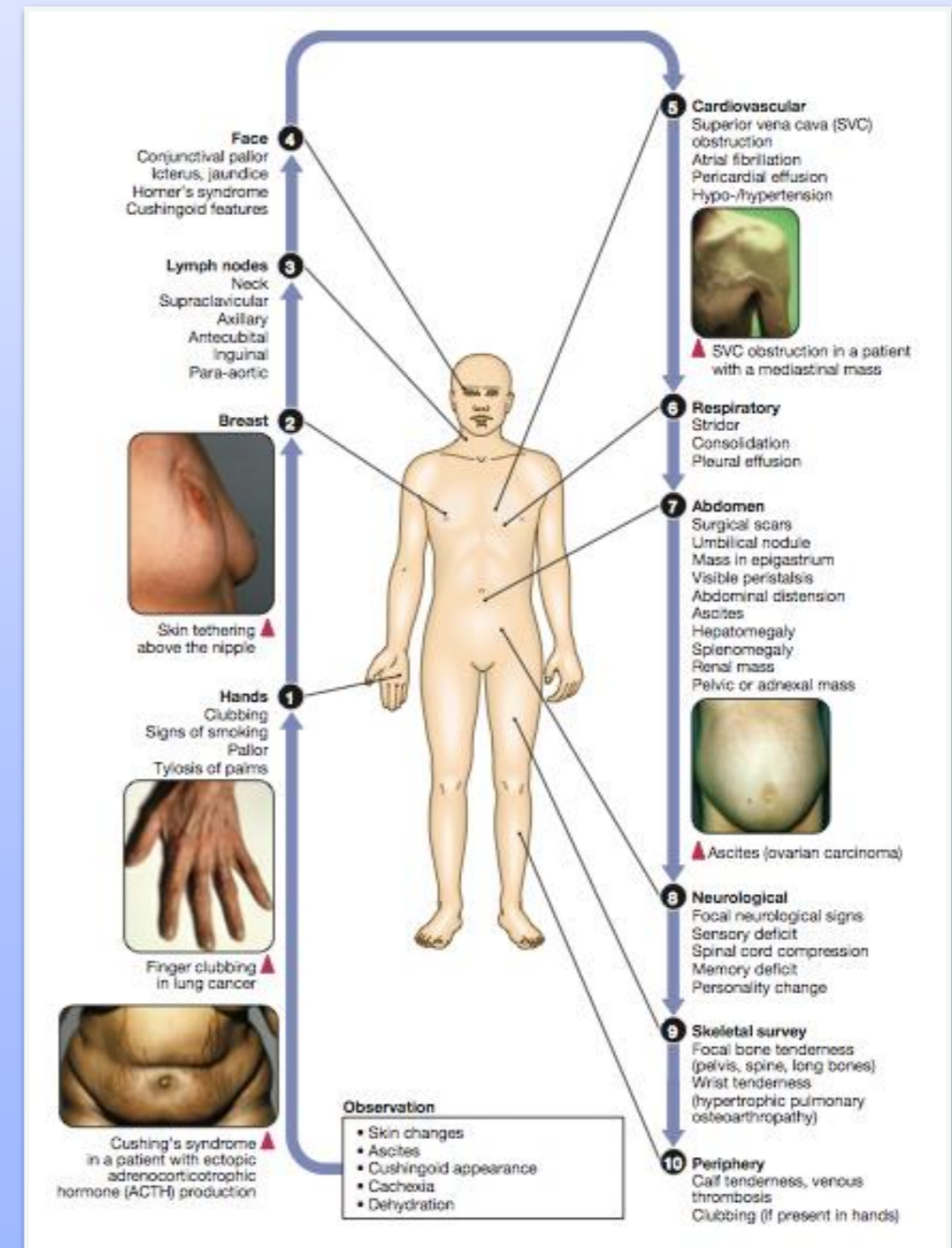
Presenting problems in oncology

- Palpable mass
- Weight loss and fever
- Finger clubbing
- Ectopic hormone production
- Neurological paraneoplastic syndromes
- Cutaneous manifestations of cancer

How the cancer is diagnosed?

Physical examination

- To identify primary site, metastases
- To discover any other conditions that may have a bearing on the management plan.



How the cancer is diagnosed?

Physical examination/bedside technique

- Thyroid examination oscopy paps smear
- Breast examination • Bone marrow
- PR/PV examination • FNAC:LN, Liver mass
- Indirect laryngoscopy
- Proctoscopy/sigmoid

Role of internist in diagnosis

- Look for co-morbidities
- General condition including immune status
- Psychologic strength of patient and family
- Social and economic condition

Information from history/examination:

- the type of tumour
- the extent of disease/staging
- the patient's general condition/comorbidity
- the metastatic or paraneoplastic symptoms
- the overall fitness of a patient

DIAGNOSIS

- Cancer diagnosis relies mostly on invasive tissue biopsy
- No noninvasive diagnostic test is sufficient to define a cancer
- In rare clinical settings FNAC is acceptable

Diagnostic objectives are

- To define the primary site
- Histology of the tumor
- Its grade
- Its invasiveness
- Molecular diagnostic information
- To rule out the treatable causes

Breaking the news to patient and family

MANAGEMENT

Multidisciplinary team approach

Co-ordination among the various professionals in cancer treatment is of the utmost importance in treatment planning.

Multidisciplinary team

- Primary care physician
- Medical oncologists
- Surgical oncologists
- Radiation oncologists
- Oncology nurse specialist
- Pharmacists
- Social workers
- Rehabilitation medicine specialists
- Other professionals working closely with each other and with the patient and family.
- **Internist**

MAKING A TREATMENT PLAN

From information on the

- extent of disease
- prognosis
- patient's wishes

it is to determine whether the treatment approach should be curative or palliative

MANAGEMENT

- General management
 - To prepare patient for specific treatment
- Specific treatment

MANAGEMENT

Specific cancer treatments are divided into:

1. Surgery
2. Radiation therapy (including photodynamic therapy),
3. Chemotherapy (including hormonal therapy and molecularly targeted therapy)
4. Biologic therapy (including immunotherapy and gene therapy).

MANAGEMENT

Specific treatment may again be

- Curative
- Palliative

Complication management

Cancer therapies are toxic, patient management involves addressing

Complications of the disease

Complications of its treatment

Psychosocial problems associated with cancer

Response to treatment

Complete response: disappearance of all evidence of disease

Partial response: $>50\%$ reduction in the sum of the products of the perpendicular diameters of all measurable lesions.

Response to treatment

Progressive disease: appearance of any new lesion or an increase of $>25\%$ in the sum of the products of the perpendicular diameters of all measurable lesions

Stable disease: Tumor shrinkage or growth that does not meet any of these criteria is considered *stable disease*.

Response to treatment

Unmeasurable extension: involvement of sites
e.g., bone or patterns of involvement e.g.
diffuse pulmonary infiltrates

No response is complete without biopsy documentation

FOLLOW-UP

At the completion of treatment, sites originally involved with tumor are reassessed

By radiography or imaging techniques, and any persistent abnormality is biopsied.

Follow up

- Monthly for 6–12 months
- Alternate month for a year
- every 3 months for a year
- every 4 months for
- a year
- every 6 months for a year
- then annually

FOLLOW-UP

- **At each visit**
 - a battery of laboratory, radiographic and imaging tests were assumed to be best to detect recurrence before it becomes symptomatic.
- But this assumption has been found to be invalid

FOLLOW-UP

- So during follow-up visits, the **history and physical examination** are the major investigations performed
- As time passes, the likelihood of recurrence of the primary cancer diminishes.
- For many types of cancer, **survival for 5 years** without recurrence is tantamount to cure

SUPPORTIVE CARE

- The success of cancer therapy depends on the supportive care
- It is a major determinant of quality of life
- Even when life cannot be prolonged, the physician must strive to preserve its quality

Death and dying

Unsuccessful treatment occurs in three phases

- **First:** optimism at the hope of cure
- **Second:** hope to live with disease if recurrence occurs
- **Finally:** At imminent death, another adjustment in outlook.
- This stage include **denial, isolation, anger, bargaining, depression, acceptance, and hope**

Death and dying

- It is best to **speak frankly with the patient and the family**
- These are difficult for the physician and family
- The critical features of the interaction are
 - to **reassure** the patient and family
 - that **everything will be done to provide comfort**

Death and dying

- Many patients **prefer to be cared in homes** or in a hospice rather than a hospital

Death and dying

Common causes of death

- infection leading to circulatory failure
- respiratory failure
- hepatic failure
- renal failure

Cancer prevention

- **Goals:** To prevent cancer in those at risk
- **By screening for early detection, manipulation of the biologic, environmental, and genetic factors**

Cancer prevention

- **Education and Healthful habit**

- Smoking cessation
- Physical activity
- Diet modification
- Energy balance
- Sun avoidance
- Chemoprevention

- **Chemoprevention**

- Upper aerodigestive tract
- Breast cancer
- Colon cancer
- Prostate cancer
- Vaccines: H. pylori, HBV, HPV,

- **Surgical prevention**

Conclusion

Oncology is a specialised area of medicine

The internist's responsibilities lie in all phases of cancer from the primary diagnosis to the terminal care

Thank you all