

THE MANAGEMENT OF CANCER Management is more than treatment

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The traditional approach to cancer concentrates on diagnosis and active treatment. This is a very limited view that, in terms of public health, may not have served society well. It implies a fatalistic attitude to the occurrence of cancer and an assumption that, once active treatment is complete, there is little more to be done. Prevention was forgotten and rehabilitation was ignored. - Abraham Vater , 1684-1751, Professor of Anatomy and Botany , and la Jacques Turcot , 1914-1977, surgeon, Hôtel-Dieu de Quebec hospital, Quebec, Canada. Henry Thompson Lynch , 1928-2019, Chair of Preventative Medicine, Creighton University John Law Augustine Peutz , 1886-1968, Chief Specialist for Internal Medicine, St John's Hospital, The Hague, The Netherlands. Harold Joseph Jeghers , 1904-1990, Professor of Internal Medicine, The New Jersey College of Medicine and Dentistry , Jersey City , NJ, USA. Frederick Pei Li , 1940-2015, Professor of Medicine, Harvard University Medical School, Boston, MA, USA. Joseph F Fraumeni , b.1933, Director of Cancer Epidemiology and Genetics, The National Cancer Institute, Bethesda, MD, USA. ter of Pathology and Therapeutics, Wittenberg, Germany . sity , Omaha, NE, USA.

Syndrome Gene(s) Inheritance
implicated Familial adenomatous
APC gene D polyposis (FAP) D DNA
mismatch Hereditary non-
polyposis repair genes colorectal
cancer (MLH1; MSH2; (HNPCC1),

Lynch MSH6) syndrome 1 D
HNPCC2 DNA mismatch repair
genes (MLH1; MSH2; MSH6)
Peutz-Jeghers syndrome STK11 D
a Cowden syndrome PTEN D
Retinoblastoma RB D Multiple
endocrine Menin D neoplasia
(MEN) type 1 MEN type 2A RET D
MEN type 2B RET D Li-Fraumeni
P53 D Familial breast cancer
BRCA1; BRCA2 D Familial
cutaneous CDNK2A; CDK4 D
malignant melanoma Associated
tumours and abnormalities
Strategies for prevention/ early
diagnosis Pr ophylactic Colorectal

cancer under the age of 25
panproctocolectomy Papillary
carcinoma of the thyroid Cancer of
the ampulla of Vater
Hepatoblastomas Primary brain
tumours (Turcot syndrome)
Osteomas of the jaw CHRPE
(congenital hypertrophy of the
retinal pigment epithelium) Color
ectal cancer (typically in forties
and Surveillance colonoscopies/
/f_ i fties) polypectomies Non-ster
oidal anti

in /f_ l ammatary drugs HNPCC associated with other cancers of the gastrointestinal or reproductive
system Bowel cancer; br east cancer; freckles round Surveillance colonoscopy; the mouth
mammography Active surveillance Multiple hamartomas of skin, breast and mucous membranes
Breast cancer Neuroendocrine tumours Endometrial cancer Thyroid cancer Surveillance of
uninvolved Retinoblastoma eye Pinealoma Osteosarcoma Awareness of associations Parathyroid
tumours and paying attention to Islet cell tumours relevant symptoms Pituitary tumours Regular
screening of blood Medullary carcinoma of the thyroid pressure, serum calcitonin
Phaeochromocytoma and urinary catecholamines Parathyroid tumours Prophylactic thyroidectomy

Regular screening of blood Medullary carcinoma of the thyroid pressure, serum calcitonin
 Pheochromocytoma and urinary catecholamines Mucosal neuromas Prophylactic thyroidectomy
 Ganglioneuromas of the gut Very difficult to culture, since pattern of Sarcomas tumours is so
 heterogeneous Leukaemia and varies between patients Osteosarcomas Brain tumours
 Adrenocortical carcinomas Screening mammography; Breast cancer pelvic ultrasound Ovarian
 cancer PSA (in males) Papillary serous carcinoma of the peritoneum Prophylactic mastectomy;
 Prostate cancer prophylactic oophorectomy Cutaneous malignant melanoma Avoid exposure to
 sunlight, careful surveillance Continued

Robert Gorlin , 1923–2006, Professor of Dentistry , The University of Eugen von Hippel , 1867–1939,
 Professor of Ophthalmology , Göttingen, Germany . Arvid Lindau , 1892–1958, Professor of
 Pathology , Lund, Sweden. David Bloom , 1892–1985, dermatologist at the Skin and Cancer Clinic,
 New York University , New York, NY , USA, described the syndrome in 1954. Minnesota,
 Minneapolis, MN , USA.

Syndrome Gene(s) Inheritance implicated Basal cell naevus PTCH D syndrome (Gorlin) von
 Hippel-Lindau VHL D disease Neurofibromatosis type 1 NF1 D Neurofibromatosis type 2 NF2
 D R Xeroderma pigmentosum Deficient nucleotide excision repair (XPA,B,C)
 Ataxia-telangiectasia AT R Bloom syndrome BLM helicase R D, dominant; PSA, prostate-specific
 antigen; R, recessive. a One of the few clinical syndromes named for the patient rather than the
 clinician. Rachel Cowden was, in 1963, the first patient described with the syndrome. She died
 from breast cancer at the age of 20. TABLE 12.2 Environmental causes of cancer (and suggested
 measures for reducing their impact). Environmental/behavioural factor Tobacco Alcohol Ultraviolet
 exposure Ionising radiation Viral infections Human papillomavirus Associated tumours and
 abnormalities Strategies for prevention/ early diagnosis Careful surveillance, Basal cell carcinomas
 awareness of diagnosis (look Medulloblastoma for bilateral ribs on x-ray) Bilateral ribs Urinary
 catecholamines Clear cell renal cell carcinoma Pheochromocytoma Haemangiomas of the
 cerebellum and retina A difficult to culture problem; maintain Astrocytomas a high index of suspicion
 Primitive neuroectodermal tumours concerning any rapid Optic gliomas changes in growth or
 Multiple neurofibromas character of any nodule Acoustic neuromas Spinal tumours Meningiomas
 Multiple neurofibromas Skin sensitive to sunlight. Early onset of Avoidance of sun exposure
 cutaneous squamous or basal cell carcinomas Active surveillance and early treatment Retinoids for
 chemoprevention Active surveillance Progressive cerebellar ataxia Leukaemia Lymphoma Breast
 cancer Melanoma Upper gastrointestinal tumours Active surveillance Sensitivity to ultraviolet light
 Leukaemia Lymphoma Associated tumours Strategy for prevention/early diagnosis Ban tobacco
 Lung cancer Ban smoking in public places Head and neck cancer Punitive taxes on tobacco Bladder
 cancer Avoid excess alcohol Head and neck cancer Surveillance of high-risk individuals
 Oesophageal cancer Hepatocellular carcinoma Melanoma Avoid excessive sun exposure, Non-
 melanoma skin cancer use high-factor sunscreen, avoid sunbeds Limit medical exposures to
 absolute Leukaemia minimum; safety precautions at Breast cancer nuclear facilities; monitor
 radiation Lymphoma workers Thyroid cancer Avoid unprotected sex Cervical cancer Vaccination
 Penile cancer Head and neck cancer Continued

A more comprehensive view considers the management of cancer as taking place along two axes:
 one is an axis of scale, from the individual to the world population; the other is an axis based on
 the development of the disease, from prevention through to rehabilitation or palliative care (Figure

12.3).

Environmental/behavioural factor Viral infections - Human immunodeficiency virus continued
Hepatitis B Other infections Schistosomiasis Helicobacter pylori Inhaled particles Asbestos Wood
dust Chemicals Environmental pollutants/chemicals used in industry Medical Alkylating agents used
in cytotoxic chemotherapy Immunosuppressive treatment Tamoxifen Fungal and plant Anticancer
toxins Obesity/lack of physical exercise

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