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Nota di contenuto	Introduction -- I: The concept of neurobiology of cancer -- Definition of cancer neurobiology -- History of research on the role of the nervous system in cancer -- II: Basic pillars of cancer neurobiology -- Psychosocial factors influence the development and progression of cancer -- Tumor tissue is innervated -- Neurotransmitters influence the development and progression of cancer -- Neuro-endocrine-immune network complexly modulates the tumor process -- Changes in signal transduction between the nervous system and peripheral tissue influence the development and progression of cancer -- Tumor tissue affects the activity of the nervous system -- Summary -- III: Influence of the nervous system on features of cancer -- Genome instability and mutation -- Tumor-promoting inflammation -- Avoiding immune destruction -- Sustaining proliferative signalling -- Resisting cell death -- Deregulating cellular metabolism -- Inducting or accessing vasculature -- Activating invasion and metastasis -- Enabling replicative immortality -- Nonmutational epigenetic reprogramming -- Evading growth suppressors -- Unlocking phenotypic plasticity -- Senescent cells -- Polymorphic microbiomes --

Summary -- IV: Homeostasis, allostasis and cancer -- The concept of homeostasis -- Three basic levels of homeostatic regulation -- The concept of allostasis -- Disruption of homeostasis in cancer -- Summary -- V: Stress and cancer -- Stress reaction -- Mechanisms mediating the effect of stress on the tumor process -- Sources of stress in cancer patients -- Stress and cancer: mechanisms -- Stress as a contributing factor in cancer -- Stress as a factor stimulating cancer progression, metastasis and increasing cancer mortality -- Summary -- VI: The role of the nervous system in selected cancers -- Breast cancer -- Lung cancer -- Melanoma -- Prostate cancer -- Pancreatic cancer -- Stomach cancer -- Colorectal cancer -- Head and neck cancer -- Cervical cancer -- Uterine cancer -- Ovarian cancer -- Hepatocellular carcinoma -- Leukemias -- Multiple myeloma -- Other cancers -- Metastasis -- Summary -- VII: Therapeutic and preventive implications of cancer neurobiology -- Reducing the negative effects of stress -- Influencing the efficacy of anticancer treatments -- Influencing late sequelae of anti-cancer treatment -- Procedures increasing the activity of the parasympathetic nervous system -- Limiting the effects of the tumor on the brain -- The use of classical conditioning in the treatment of cancer -- The influence of hypnosis and suggestion -- Summary -- VIII: Future directions of research in cancer neurobiology -- The role of adrenergic signaling in cancer -- The role of the hypothalamic-pituitary-adrenal axis in the development and progression of cancer -- Eustress and exercise -- The role of the parasympathetic nervous system in carcinogenesis and cancer progression -- Impact of chemotherapy-induced neuropathy on cancer progression -- Experimental and clinical research -- Summary -- IX: Conclusion.

Sommario/riassunto

The focus of this book is to describe the current understanding of the interactions between the nervous system and cancer and the use of this information in the treatment and prevention of cancer. Author and noted researcher Boris Mravec presents a clearly written and well-illustrated monograph on this rapidly developing new field. The book begins with an exploration of the basic concepts supporting the neurobiology of cancer, discusses the ways in which the nervous system affects all the hallmarks of cancer, delves extensively into stress and cancer, covers the etiopathogenetic consequences of the neurobiology of cancer, the implications for cancer prevention and treatment, and looks at future directions in the field.