

Preface

A brain tumor occurs when abnormal cells form within the brain.^[2] There are two main types of tumors: malignant (cancerous) tumors and benign (non-cancerous) tumors.^[2] These can be further classified as primary tumors, which start within the brain, and secondary tumors, which most commonly have spread from tumors located outside the brain, known as brain metastasis tumors.^[1] All types of brain tumors may produce symptoms that vary depending on the size of the tumor and the part of the brain that is involved.^[2] Where symptoms exist, they may include headaches, seizures, problems with vision, vomiting and mental changes.^{[1][2][7]} Other symptoms may include difficulty walking, speaking, with sensations, or unconsciousness.^{[1][3]}

The cause of most brain tumors is unknown, though up to 4% of brain cancers may be caused by CT scan radiation.^{[2][8]} Uncommon risk factors include exposure to vinyl chloride, Epstein–Barr virus, ionizing radiation, and inherited syndromes such as neurofibromatosis, tuberous sclerosis, and von Hippel-Lindau Disease.^{[1][2][3]} Studies on mobile phone exposure have not shown a clear risk.^[3] The most common types of primary tumors in adults are meningiomas (usually benign) and astrocytomas such as glioblastomas.^[1] In children, the most common type is a malignant medulloblastoma.^[3] Diagnosis is usually by medical examination along with computed tomography (CT) or magnetic resonance imaging (MRI).^[2] The result is then often confirmed by a biopsy. Based on the findings, the tumors are divided into different grades of severity.^{[1]i}

In the present book, ten typical literatures about Brain tumors published on international authoritative journals were selected to introduce the worldwide newest progress, which contains reviews or original researches on Brain tumors. We hope this book can demonstrate advances in Brain tumors as well as give references to the researchers, students and other related people.

ⁱ https://en.wikipedia.org/wiki/Brain_tumor