Brain Tumor Therapy

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Editorial Note

Brain tumors include a large group of benign and malignant neoplasms. Initially, primary malignant brain tumors are relatively rare; it has been observed that the incidence rates for brain tumors have been increasing over the last few decades. This gradual increase may be due to improved diagnostic techniques and also to changes in tumor coding. Generally, brain tumors constitute a mixed group of neoplasms which originates from intracranial tissues and the meninges, with degrees of malignancy that can range from benign to aggressive. Due to their site in the brain, Benign brain tumors can be lethal. Malignant brain tumors account for 1.8% of all cancers and 2.5% of all cancer-related deaths.

They are peculiarly deleterious since they can interfere with the normal brain functions that are essential for life. Similarly these tumors are usually associated with marked disability and mortality. Therefore, the ability to understand the patterns and epidemiological characteristics associated with brain tumors can be crucial to the prevention of these lesions. Generally, brain tumors represent among the most common human diseases. Accordingly, it has been estimated that the prevalence of brain tumors among the Saudi population is 0.3%. In the Middle East, Iran ranks highest with respect to the highest prevalence rate of brain tumors, with the Kingdom of Saudi Arabia (KSA) ranking second. However, most local cancer registries in the Middle East do not meet international standards, and there are a few studies that have analyzed the epidemiology of brain tumors in the region. Similarly, there is a lack of information related to the epidemiological characteristics of these tumors in Arabic and Middle Eastern countries, including KSA.

Therefore, this study aims to explore the magnitude and epidemiological features of primary brain tumors among patients admitted to Aseer Central Hospital (ACH), Abha City, Saudi Arabia, and to identify the different decisions

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for their management. Brain Tumor treatment options for adult brain tumors are evolving and tend to be multidisciplinary. Though there is no standardized protocol in the treatment of the different adult brain tumors, the management of patients are based on different guidelines and studies and on the physician's discretion. Brain Surgery is usually the initial treatment and is commonly attempted in most types of brain tumors. Its main goals are to establish histologic diagnosis, to decrease intracranial pressures and sometimes to relieve seizures which are oftentimes intractable to anticonvulsants. This surgery may vary from a simple biopsy or insertion of a shunt or a complete or partial resection of the brain tumor. Accordingly, radiation therapy, chemotherapy and targeted biological agents may also be treatment options depending on the histologic diagnosis and anatomical site of the brain tumor.

Initially, Radiation therapy which may be given in different forms such as conventional external beam radiation, brachytherapy or stereotactic radiosurgery, aims to shrink neoplastic cells sensitive to it while preserving the nearby normal brain cells. It is usually the first line of treatment in metastastic brain tumors and serves as an adjunct to surgery in primary brain tumors. Chemotherapy is becoming an option as an initial treatment in chemosensitive tumors such as lymphoma, oligodendroglioma, anaplastic astrocytoma, glioblastoma, ependymoma and germ-cell tumors and as an adjunct therapy in large, unresectable tumors. Currently, targeted biological agents are also becoming a promising treatment option in brain tumors specifically in glioblastomas and high-grade gliomas by either interrupting the cell repair process fueling tumor growth or inhibiting the growth of new blood vessels or replacing faulty genes of the tumor cells.

Accordingly, combination therapy of the aforementioned treatment strategies is usually utilized, however, active surveillance or regular monitoring of tumor progression is also offered in some patients with brain tumors who do not want to undergo the aforementioned treatment.

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