Resistance to Targeted Therapies Against Adult Brain Cancers

This book presents a complete description of the cell biology of brain tumors and the resistance mechanisms. The book discusses radio and chemotherapies of the brain malignancies. The molecular mechanisms of resistance are explained in different flow charts and diagrams. The mechanisms of tumor angiogenesis and anti-vascular factors are also discussed. The role of the blood brain barrier and blood tumor barrier interfaces are also presented.

The book is divided into 11 chapters each chapter is enriched with many figures and tables highlighting the main and important points.

The first chapter is devoted to an overview about targeted therapies in brain tumors. It represents the problem of chemotherapeutic resistance in gliomas tumors. Chapter 2 deals with targeting chemotherapy resistance in glioblastoma through modulation of ABC transporters. This chapter gives detailed table outlining MRP transporter substrate and inhibitor lists and another one about clinical trial involving ABC transporters. The third chapter is dealing with resistance of glioblastomas to radiation therapy. The fourth chapter is giving an overview about the blood-brain barrier in glioblastoma: pathology and therapeutic implications. Chapter 5 is concerned with resistance of brain tumors to small- molecule- targeted therapies: lessons from various cancer types. The 6 chapter is objected to drug repurposing to circumvent chemotherapy resistance in brain tumors. Chapter 7 is dealing with small-molecule inhibitors in glioblastoma and the key pathways and resistance mechanisms. Chapter 8 is discussing the imaging targeted therapy response and resistance in glioblastoma. This chapter clarifies many major points in tables and graphs like imaging modalities employed in GBM assessment and targeted therapeutic approaches in GBM. Chapter 9 is concerned with drug resistance in malignant meningiomas. This chapter is enriched with many figures and tables. Chapter 10 is dealing with recurrence of low-grade gliomas and whether the targeted therapies improved the outcomes. The last chapter is highlighting host-tumor interactions in brain cancer metastasis leading to drug resistance.

I highly recommend this book as a very important reference for pharmacists, oncologists, neurologists, residents, and nursing students.

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