

Ask the Expert Information Sheet

Side Effects and Treatment Efficacy

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What if I'm being treated for a brain tumour but I don't experience any side effects? Does that mean the treatment isn't working?

When doctors discuss side effects of any treatment it's crucial to remember that these are *potential* side effects only: Not every patient experiences these effects. In fact most patients do not. Even so-called "common side effects" rarely occur in more than 30% of treated patients. So it would not be unusual for a patient to experience no side effects from a specific treatment even if that treatment is cancer chemotherapy. Additionally there are side effects that are related to the dose of medication and those that are not related to dose (i.e., idiosyncratic effects). Idiosyncratic effects are those that happen by chance, likely due to an individual's genetic makeup and physiology. They include things like allergic rashes. Dose-related effects typically become more frequent as the dose is raised higher.

In the case of chemotherapy, as the dose gets raised, certain side effects such as lower blood counts become more and more common and severe. The job of the oncologist is to keep that risk as low as possible while still giving an effective dose. Ideally, the best dose of chemotherapy is the one that maximizes effect and minimizes risk. If we get it right the first time, chemotherapy can be an easily tolerated treatment. That doesn't mean it isn't working. Whether the chemotherapy works or not is far more dependent on other factors. The most critical factors seem to be 1) the tumour's ability to repair damage done by chemotherapy and 2) the ability of the chemotherapy to penetrate the brain to reach all the cancerous cells. Chemotherapy, such as temozolomide, has been successful in brain tumour patients largely because many brain tumours cannot repair the damage done by this drug and temozolomide does penetrate the nervous system better than many other chemotherapy drugs.