Chemo-immunotherapy of Cancer with Adjuvants

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Do chemical adjuvants inhibit murine lymphomas (like 2C3) and mammary carcinomas (like 4T1)? Cancer therapy currently involves surgery, chemotherapy, and radiation. Surgery does not ensure complete removal of cancer. Chemotherapy and radiation are follow-ups of any cancer treatment; but they both cause collateral damage to normal tissue and diminish the activity of the immune system. The objective of this study is to lessen drawbacks of chemotherapeutic protocol by treating post-surgical patients with an immunoadjuvant at the site to develop resistance for cancer. Due to inadequacy from surgery, the residual cancer would provide antigenic stimuli, while the adjuvant will boost specific anti-cancer immunity. The goal of this experiment is to develop a better chemotherapeutic strategy based on concurrent treatment with anti-cancer compounds in addition to the immunoadjuvant. I grew 2C3 (in vitro) and 4T1 (in vivo) cells. BALB/c were injected with 4T1 cells, allowed to grow, and then were treated in equal groups with squalene, phytanol, and phosphate-buffered-saline. 2C3 and 4T1 were both studied in culture with the same requirements, to understand the microscopic effects of these adjuvants. The research suggests that chemicals like phytanol and squalene directly shrink tumors and retard their growth. When the two are compared, phytanol appears more effective than squalene.

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