Abstract: Surgical Site Infection in Immediate Breast Reconstruction: Does Chemotherapy Timing Make a Difference?

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none experimental group had statistically lower rates than the CG, whilst both drugs reduced the extravasation of red blood cells compared with the control group (p < 0.001).

**Surgical Site Infection in Immediate Breast Reconstruction: Does Chemotherapy Timing Make a Difference?**

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**INTRODUCTION:** Chemotherapy has been shown to adversely affect post-operative outcomes in a variety of surgical fields, leading to delayed wound healing and increased susceptibility to infections. We aim to analyze the impact of chemotherapy timing on wound infections after immediate breast reconstruction (IBR).

**METHODS:** A single-center, retrospective chart review of patients undergoing IBR between 2010 and 2015 was performed. Patients were divided into four groups: those with neoadjuvant chemotherapy only, adjuvant chemotherapy only, both adjuvant and neoadjuvant, and those with no chemotherapy. Subgroup comparisons were made. Outcomes of interest included surgical site infection and timing of post-operative wound infection.

**RESULTS:** A total of 949 reconstructions were performed over the study period. Subgroup breakdown was as follows: 56 (5.9%) neoadjuvant only, 173 (18.2%) adjuvant only, 18 (1.9%) both, and 702 (74.0%) none. Overall infection rates were 10.7%, 10.4%, 22.2%, and 6.1% in the four groups, respectively (p=0.015). On multivariate analysis, no significant differences were observed when comparing presence or absence of chemotherapy in the overall reconstruction cohort or when subgrouped by reconstruction modality – autologous or alloplastic. There were no significant differences in time from neoadjuvant chemotherapy to surgery date noted between patients who developed a post-operative surgical site infection and those who did not (4.40 ± 1.58 vs 4.72 ± 1.39 weeks; p=0.517).

**CONCLUSION:** In our study, chemotherapy timing did not increase the odds of surgical site infections in patients undergoing immediate breast reconstruction.

**Graphical Calculation of Estimated Energy Expenditure in Burn Patients**

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**INTRODUCTION:** Estimated energy expenditure (EEE) equations have proven to overestimate the amount of caloric support necessary for burn patients. Ireton-Jones et al derived two equations, which have proved their reliability, but remain challenging to apply in a clinical setting given the difficult mathematics involved. This study aims to introduce a graphical calculation of EEE in burn patients that can be easily utilized in the clinical setting.

**METHODS:** The multivariate linear regression analysis from Ireton-Jones et al yielded two equations which were rearranged into the form of a simple linear equation of the type y = mx+b. By choosing an energy expenditure and the age of the subject, the weight was calculated. The endpoints were then calculated and a graph was mapped by means of Adobe FrameMaker.

**RESULTS:** A graphical representation of Ireton-Jones et al’ equations was obtained by plotting the weight (kg) on the y-axis, the age (years) on the x-axis, and a series of parallel lines representing the EEE in burn patients. The EEE has been displayed graphically on a grid to allow rapid determination of the estimated energy expenditure needed for a given patient of a designated weight and age. Two graphs were plotted: one for