

Prognostic Significance Of TPO Levels After Radiotherapy In GI Cancer

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Background : Recent studies show that thrombopoietin has a significant prognostic value after cancer therapy

Methods : Two groups were considered, Group A: 34 cases without prior radiotherapy (RT) and Group B: 11 cases with prior RT. In a prospective study, 45 cases (30 male and 15 female) of gastrointestinal cancer were taken, who underwent surgery. It included the cases without (34) and with (11) prior radiotherapy. TPO and platelet count were measured on day 1 preoperatively and day 3 after surgery.

Results : Preoperatively, on day 1, it was observed that, Group A(without RT) had lower TPO levels 174.8 ± 98.2 pg/ml, than Group B(with RT) 220.3 ± 120.7 pg/ml. However, these results were not statistically significant (p-value 0.2). On Day 3 after surgery, the TPO value in Group A was 287.2 ± 177.3 pg/ml and that in Group B was 472.6 ± 265.2 pg/ml. This difference was statistically significant (p-value 0.01). The corresponding platelet counts preoperatively were 1.86 ± 0.89 lakh/ cmm and 1.9 ± 0.62 lakh/ cmm (p-value 0.72). The corresponding platelet counts post-operatively were 1.52 ± 0.53 lakh/ cmm and 1.06 ± 0.51 lakh/ cmm (p-value 0.02). Similar to TPO value postoperatively difference in platelet count was also statistically significant

Conclusions : • Higher TPO level after surgery or radiotherapy is an indicator of better response. • Thrombocytosis prior to therapy indicates poor prognosis • Level of TPO correlates well with platelet count after surgery • Therapeutic value of rHuTPO in human after RT needs further evaluation

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