OZ-PO-039: TUMOR pO2 MODIFICATION BY OZONETHERAPY.

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Hypoxic tumor cells are 2.5 - 3 times more resistant to radiotherapy, with higher metastatic potential than normoxic cells. Tumor hypoxia is an independent prognostic factor in head and neck and uterine cervix tumors. As has been demonstrated by the meta-analysis of Overgaard and the multicenter clinical trials, hypoxia modification prior to or during the course of radiotherapy can increase the effectiveness of treatment and improve prognosis. Ozonetherapy (O3T) has been used to treat ischemic disorders. This study evaluated the effect of O3T on tumor pO2 in humans. We study 16 patients with advanced or relapsed cancer: Male:Female 13 : 3, between 50 – 91 years old. O3T was carried out by autohemotransfusion 3 alternating days over one week. Tumour pO2 was measured by a polarographic probe system, four times. There were 150-200 determinations every time. During O3T there was significant increase (Friedman test: $p = 0.013$) in tumor oxygenation and decrease of hypoxic fractions, with prolonged effect. There was inverse and significant correlation between individual "Increase Factor" and "initial pO2 value": higher increase oxygenation in those initially worse oxygenated tumors (Spearman rho = -0.885, $p < 0.001$. These findings support that ozone therapy could be a useful adjuvant in treatment of hypoxic tumors.