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Chemokines mRNA expression in epithelial ovarian cancer FIGO stage IIIC microenvironment versus normal tissue: Preliminary results

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Objective: We evaluated, in epithelial ovarian cancer, mRNA expression of CXCL12(C-X-C Motif Chemokine Ligand 12), CXCR4 (C-X-C Motif Chemokine Receptor 4), CXCL8 (C-X-C Motif Chemokine Ligand 8) and CXCL11(C-X-C Motif Chemokine Ligand 11) in comparison with VEGF (Vascular endothelial growth factor) mRNA expression.

Setting: The following research work was set up at Tertiary Cancer Centre.

Method: The method carried involved prospective study from women FIGO stage III submitted to primary surgery, fresh samples of ovarian cancer (OC) and their normal counterpart (N) from normal peritoneum were obtained. All samples were histologically assessed. Total RNA was isolated with TRI Reagent, and reverse-transcribed into cDNA. A Real-Time PCR using SYBR Green I as detection dye for 18S, CXCL12, CXCR4, CXCR7, CXCL8, CXCL11 and VEGF genes was conducted. Student's t-test with P value < .05 was considered significant.

Results: Ten samples were analysed. OC vs N showed 100% up-regulation of CXCL12 mRNA expression (P<.01), 70% up-regulation of CXCR4 mRNA expression (P=NS), 90% up-regulation of CXCR7 mRNA expression (P=.08); 90% down-regulation of CXCL11 mRNA expression (P=.03) and 70% down-regulation of VEGF mRNA expression (P=NS), respectively. OC over-expression of CXCL12 mRNA was significantly positively related to CXCR4 mRNA (P<.01) and CXCR7 mRNA (p<.01) expression. OC over-expression of CXCL12 mRNA was significantly negatively related to CXCL11 (P<.01) and VEGF (P<.01) mRNA expression.

Conclusions: Our data confirm that CXCL12-CXCR4 axis is significantly positively related to the angiogenetic chemokines and growth factor (CXCR and VEGF) and significantly negatively related to the inhibition of angiogenesis chemokine CXCL11. This data seems to suggest targeting anti-vascular therapy to patients with VEGF over-expression. We will expect from a greater sample size the definitive results.

Biography

Raffaella Giannice graduated in Medicine at University La Sapienza of Rome, in Italy. She has specialised in Obstetrics and Gynaecology at the Catholic University of Sacred Heart A. Gemelli of Rome, (Italy). She completed her PhD in Obstetrics and Gynaecologic Science from University of Parma and her PhD in Gynaecologic Oncology at University of Milan La Bicocca (Italy). She is a permanent Consultant in Gynaecology and Obstetrics at ASST SS Paolo e Carlo Hospital of Milan and temporarily Honorary Consultant at Oxford University Hospital NHS. She has published more than 40 papers in reputed national and international journals.

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