CORRELATION BETWEEN VEGF-C EXPRESSION IN TISSUE AND SERUM VEGF-C IN PATIENTS WITH BULKY CERVICAL CANCER RECEIVING PACLITAXEL – CARBOPLATIN NEOADJUVAN CHEMOTHERAPY

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ABSTRACT

Background: The development of cervical cancer is highly dependent on the ability of cancer cells to form new capillaries and lymphatic vessels. Neo-adjuvant chemotherapy shrinks tumor size and reduces angiogenesis. Of the various growth factors that regulate angiogenesis, VEGF-C is the first-rank lymphangiogenic factor. VEGF-C can be measured by several methods. This study aimed to determine: (1) the effect of neo-adjuvant chemotherapy in reducing tissue VEGF-C expression and serum VEGF-C level; (2) the correlation between VEGF-C expression in tissueand serum VEGF-C in patients with bulky cervical cancer receiving paclitaxel – carboplatin neoadjuvan chemotherapy.
Subjects and Method: This was a quasi experiment conducted at the Obstetrics and Gynecology Department and the Pathology and Anatomy Department, Dr. Moewardi Hospital, Surakarta, Central Java, from May to September 2017. A sample of 30 patients with cervical cancer stage IB2 and IIA2 was selected for this study. The independent variable was paclitaxel – carboplatin neoadjuvan chemotherapy. The dependent variables were VEGF-C expression in tissue and VEGF-C serum. Tissue VEGF-C expression and serum VEGF-C level were measured before and after neo-adjuvant chemotherapy. The data were analyzed by Wilcoxon test and Spearman correlation.
Results: TissueVEGF-C expression before chemotherapy (mean= 6.17) was higher than after therapy (mean= 4.17), and it was statistically significant ($p< 0.001$). Serum VEGF-C level before chemotherapy (mean= 9574.60) was higher than after therapy (mean= 7827.63), and it was statistically significant ($p= 0.006$). Tissue VEGF-C expression was correlated with serum VEGF-C, but it was statistically non-significant ($r= 0.15$, $p= 0.218$).
Conclusion: Neo-adjuvant chemotherapy reduces both VEGF-C tissue expression and serum VEGF-C levels. There is a weak and insignificant correlation between tissue VEGF-C expression and serum VEGF-C levels in patients with cervical cancer given neo-adjuvant chemotherapy.

Keywords: VEGF-C, neo-adjuvant chemotherapy, cervical cancer

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