ABSTRACT

**Background:** The advanced stage cervical cancer is common in Indonesia and with the shortage of radiation, chemotherapy is used as a neoadjuvant treatment in locally advanced cervical cancer. If the response of chemotherapy is good, the prognosis is better but if it fails the prognosis is worse. However, the clear mechanism of chemotherapy response in cervical cancer is still unclear.

**Objective:** To determine the correlation of CTR1, ERCC1 and HSP70 expression with the response to cisplatin in cervical cancer stage IIB.

**Methods:** An analytic observational study was done on 41 cervical cancer patients stage IIB. Biopsy specimens were taken before chemotherapy to evaluate the expression of CTR1, ERCC1 and HSP70 by immunohistochemistry study. The tumor volume before chemotherapy were evaluated with MRI. Four cycles of cisplatin 50mg/m² weekly was given as a neoadjuvant chemotherapy. After completion of chemotherapy, MRI was used to evaluate the tumor volume after chemotherapy and response was categorized based on RECIST criterias.

**Results:** Among 41 cervical cancer patients stage IIB, the mean of age of the patients was 45.56 years old ± 7.69 years old and majority of the patients had squamous cell cancer (58.5%) followed by adenocarcinoma (31.7%) and adenosquamous (9.8%). The expression of HSP70, ERCC1 and CTR1 were not different among these 3 types of histopathology with the p values of 0.444, 0.893 and 1.000 respectively. The mean of tumor volume was 64.99 cm³ before chemotherapy and 38.88 cm³ after chemotherapy. The expression of HSP70, ERCC1 and CTR1 were not associated with the initial tumor volume (p=0.940, p=0.180 and p=0.521 respectively). There was significant negative correlation between HSP70 and tumor response, the higher the expression of HSP70 the worse is the tumor response, with the p value of 0.003. Expression of CTR1 and ERCC1 had no significant correlation with the tumor response (p = 0.618 and 0.245 respectively).

**Conclusion:** Expression of HSP70 had significant negative correlation with cisplatin response in cervical cancer stage IIB.

**Keyword:** Cervical cancer, neoadjuvant chemotherapy in cervical cancer, cisplatin