Pengaruh pemberian nanokurkumin terhadap ekspresi telomerase, ekspresi NF-kB, dan indeks proliferasi BRDU pada kultur cell line koriokarsinoma BeWo (ATCC CCL-98) = Nanocurcumin effects on telomerase activity, NF-kB expression, and BRDU proliferation index in BeWo choriocarcinoma cell line culture (ATCC CCL-98)

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Abstrak

ABSTRAK
 Koriokarsinoma merupakan keganasan yang sangat invasive berasal dari villi plasentra dan trofoblas. Mola invasif dan koriokarsinoma sangat reponsif terhadap kemoterapi dengan angka kesembuhan lebih dari 90 , yang memungkinkan tercapainya kesembuhan tanpa mengganggu fungsi reproduksi. Methotrexate MTX merupakan terapi yang sering digunakan pada beberapa keganasan dan merupakan protokol kemoterapi pada koriokarsinoma, namun MTX memiliki banyak efek samping. Berbagai penelitian pada setengah abad terakhir menunjukan fungsi penting nanokurkumin. Penelitian in vitro dan in vivo menujukkan perannya seperti anti inflamasi, pengeluaran sitokin, anti oksidan dan imunomodulator. Namun, sapai saat ini belum ada penelitian mengenai efek antikanker nanokurkumin pada koriokarsinoma. Penelitian eksperimental sederhana ini menggunakan uji Shapiro-Wilk, uji t sampel bebas, dan uji Anova One Way. Pada penelitianini, kami meneliti dan mebandingkan efek pemberian MTX atau kombinasi dengan nanokurkumin pada berbagai jalur sinyal. Pada penelitian ini, 4 kelompok sel BeWo diberikan kombinasi MTX dan nanokurkumin, 1 kelompok sel BeWo diberikan MTX sebagai control positif, dan 1 kelompok sel BeWo sebagai control negatif. Penelitian ini menunjukkan terdapat penurunan ekspresi telomerase, ekspresi NF- B, dan indeks proliferasi BrdU yang signifikan dengan pemberian kombinasi MTX dan nanokurkumin dibandingkan dengan MTX saja ABSTRACT
 Choriocarcinoma is a highly invasive malignant tumor arising from the placental villous and extravillous trophoblast. IM and CCA, which make up the majority of these tumors, are highly responsive to chemotherapy with an overall cure rate exceeding 90 , making it usually possible to achieve cure while preserving reproductive function. Methotrexate is a frequently used for the treatment of several malignancies and is part of the chemotherapy protocols used for choriocarcinoma; however, side-effect are common. Extensive research over the last half century has revealed important functions of nanocurcumin. Invitro and in vivoresearch has shown various activities, such as anti-inflammatory, cytokines release, antioxidant, and immunomodulatory. However, to date no study has been carried out to elucidate its anticancer activity of nanocurcumin in choriocarcinoma. In this study, we investigated and compared the effects of methotrexate alone or in combination with nanocurcumin on various signalling pathway. In this simple experiment stury, we used Saphiro-Wilk test, independent sample t test, and Anova One Way test to analize data. To study the potential cooperative effect of both against, 4 BeWo cell lines were treated with the combination of methotrexate and nanocurcumin, 1 BeWO cell line was treated with methotrexate alone as a positive control, and 1 BeWo cell line as a negative control. This study demonstrated significant reduction of telomerase activity, NF- B expression, and proliferation index BrdU of BeWo cell line treated with a combination of nanocurcumin and methotrexate compared with methotrexate alone. It shows that the effect of nanocurcumin and methotrexate are syngergistic suggest potential for the clinical use of

methotrexate in combination with curcumin which will allow effective anticancer effect in choriocarcinoma.