

Respons inflamasi serta kadar cleaved caspase CK18 penderita kanker kolorektal pascareseksi setelah pemberian fraksi etanol daun annona muricata LINN = Inflammatory response and cleaved caspase CK18 in postresection colorectal cancer patients after ethanol fraction of annona muricata LINN administration / Lisa Andriani Lienggonegoro

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Abstrak

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Kanker kolorektal merupakan salah satu jenis kanker yang paling banyak menyebabkan kematian di dunia dan berada di peringkat tiga terbanyak setelah kanker paru dan kanker payudara. Inflamasi merupakan predisposisi kanker kolorektal melalui berbagai mediator proinflamasi dan antiinflamasi yang dihasilkan sel-sel inflamasi. Pengobatan kanker kolorektal secara konvensional dengan terapi bedah, kemoterapi maupun radioterapi belum dapat memberikan hasil yang memuaskan karena angka kekambuhan kanker yang tinggi dan terjadinya inflamasi akibat terapi. *Annona muricata* Linn. (AML), atau sirsak memiliki zat aktif asetogenin, yang selain bersifat anti-oksidan, antiinflamasi juga memiliki efek sitotoksik karena mampu menginduksi apoptosis dengan mengurangi kadar cAMP dan cGMP pada sel-sel kanker manusia. Dua puluh lima subyek penderita kanker kolorektal yang sudah direseksi dibagi menjadi dua kelompok dan mendapatkan tambahan terapi berupa ekstrak etanol daun AML atau maltosa selama 8 minggu, dan dilakukan pemeriksaan kadar TNF- $\alpha$ , IL-10, IFN- $\gamma$ , COX-2 serta cleaved caspase CK18 melalui serum subyek sebelum dan setelah terapi selesai dilakukan. Pemberian ekstrak etanol AML tidak menimbulkan perubahan signifikan dari kelima parameter dibandingkan antara kelompok perlakuan dan kontrol. Terdapat korelasi bersifat positif yang signifikan antara mediator proinflamasi TNF- $\alpha$  dan IL-10 setelah perlakuan yaitu 0,641 ( $p = 0,009$ ) dan juga korelasi positif antara TNF- $\alpha$  dan ccCK18 yaitu 0,817 ( $p = 0,002$ ). Berdasarkan hasil di atas ekstrak etanol AML memiliki peran untuk meregulasi homeostasis proinflamasi dan antiinflamasi serta berperan dalam proses apoptosis.

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**ABSTRACT**

Colorectal cancer is one type of cancer which causes the most deaths in the world and is the third highest after lung cancer and breast cancer. Inflammation is one of colorectal cancer predisposition, mediated by a variety of inflammatory cytokine produced by inflammatory cells. Treatment of colorectal cancer include surgical therapy, chemotherapy or radiotherapy had not given a satisfactory result for the high recurrence rate of cancer, even resulted inflammation as a side effect of therapy. *Annona muricata* Linn. (AML), or soursop has asetogenin as one of its active

substances, which have antioxidant potency, anti-inflammatory and cytotoxic effect because it can induce apoptosis by reducing levels of cAMP and cGMP in human cancer cells. Twenty-five post-resection colorectal cancer patients divided into two groups and get ethanol fraction of leaves of AML or maltose as an additional therapy for 8 weeks. Levels of TNF- $\alpha$ , IL-10, IFN- $\gamma$ , COX-2 and caspase cleaved CK18 serum subjects before and after treatment was examined. Ethanol fraction of AML did not make a significant change from the five parameters which were compared between treatment and kontrol groups. TNF- $\alpha$  and IL-10 serum after treatment had a positive correlation with R= 0,641 (p = 0.009). TNF- $\alpha$  and ccCK18 also had positive correlation with R = 0.817 (p = 0.002). Based on results the ethanol fraction of AML plays a role to homeostasis of proinflammatory and antiinflammatory as well as apoptosis regulation.