Korelasi kadar serum sklerostin dan tumor necrosis factor-(TNF-) dengan penanda turnover tulang pada pasien artritis reumatoid perempuan premenopause = Correlation of sclerostin and tumor necrosis factor- (TNF-) in bone turnover process of premenopausal women with rheumatoid arthritis

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Abstrak

Artritis reumatoid (AR) dapat menyebabkan penurunan massa tulang sistemik akibat adanya peningkatan osteoklastogenesis dan penghambatan osteoblastogenesis melalui peningkatan sklerostin yang menyebabkan penghambatan jalur Wingless(Wnt)-bcatenin canonicaldan bone morphogenetic proteins(BMP). Sampai saat ini masih belum ada penelitian tentang korelasi TNF-adan sklerostin terhadap penanda turnovertulang (CTX dan P1NP) pada pasien AR perempuan premenopause.Penelitian ini bertujuan untuk menjelaskan patogenesis hilangnya massa tulang pada pasien artritis rheumatoid perempuan premenopause dengan menilai hubungan antara kadar sitokin proinflamasi TNF-, penghambat Wnt signalingsklerostin, dan penanda resorpsi tulang P1NP dan CTX.Studi potong lintang ini melibatkan 38 perempuan AR premenopause. Pengambilan sampel dilakukan secara konsekutif. Pemeriksaan dilakukan dengan ELISA. Penelitian ini didapatkan kadar CTX (rerata 2,74 ng/ml) yang lebih tinggi dan P1NP (median 34,04 pg/ml) yang lebih rendahdibandingkan dengan sampel sehat pada penelitian sebelumnya. Terdapat korelasi negatif (r = -0,388) antara kadar TNF- dengan kadar sklerostin yang bermakna secara statistik (p = 0,016). Terdapat pula korelasi positif (r = 0,362) antara kadar TNF- dengan kadar P1NP yang bermakna secara statistik (p = 0,026). didapatkan adanya peningkatan CTX dan penurunan P1NP, adanya korelasi negatif bermakna antara kadar TNF- dan sklerostin serta adanya korelasi positif bermakna antara kadar TNF- dan P1NP.

.....Rheumatoid arthritis is associated with systemic bone mass loss due tostimulation of osteoclastogenesis and inhibition of osteoblastogenesis through inhibition of Wingless(Wnt) -bcatenin canonical and bone morphogenetic proteins(BMP) pathway by sclerostin. There are currently no studies that assess the correlation of TNF- and sclerostin with bone resorption markers CTX and P1NPin premenopause rheumatoid arthritis patients. This study aims to explainthe pathogenesis of bone mass decrease by assessing the correlation between TNF-, sclerostin, P1NP and CTX. This cross-sectional study involves 38 premenopausal women with AR. Sampling is done consecutively. Examination is done by ELISA.

This study found higher level of serum CTX (mean 2,74ng/mL) and lower level of P1NP (median 34,04 pg/mL) than normal population in previous studies. There was a negative correlation (r = -0,388) between TNF- levels and sclerostin levels which was significant (p = 0,016). There wasalso a positive correlation (r = 0,362) between TNF- levels and P1NP levels which was also significant (p = 0,026). This study found an increase in CTX and decrease in P1NP. There was a significant negative correlation between TNF- and sclerostin levels and also a significant positive correlation between TNF- and P1NP levels.