Korelasi indeks ketebalan korteks tulang femur proksimal menggunakan radiografi konvensional dengan T-score kolum femur menggunakan Dual X-Ray Absorptiometry (DXA) = The Correlation between cortical thickness index of proximal femur by conventional radiography and T-score of femoral neck by Dual X Ray Absorptiometry (DXA)

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Abstrak

Latar belakang dan tujuan: Prevalensi osteoporosis di Indonesia cukup tinggi disertai peningkatan risiko patah tulang terutama pada wanita. Pemeriksaan kepadatan massa tulang dengan DXA merupakan baku emas dalam mendiagnosis osteopenia maupun osteoporosis dan memperkirakan risiko patah tulang berdasarkan nilai T-score, namun ketersediaan perangkat DXA sangat terbatas di wilayah Indonesia. Indeks ketebalan korteks merupakan salah satu parameter sederhana, objektif, dan mudah diterapkan pada radiografi konvensional dalam memperkirakan kepadatan massa tulang, namun perlu dibuktikan korelasinya dengan nilai T-score.
Metode: Uji korelatif dengan pendekatan potong lintang pada nilai indeks ketebalan korteks femur proksimal menggunakan radiografi konvensional dan T-score kolum femur menggunakan DXA berdasarkan database populasi Indonesia, terhadap 31 subjek penelitian, menggunakan data sekunder dalam kurun waktu Juli 2012 sampai Juni 2016.
Hasil: Dengan uji korelasi Pearson, didapatkan nilai p<0,000 dan r=0,76 antara nilai indeks ketebalan korteks femur proksimal menggunakan radiografi konvensional dan T-score kolum femur menggunakan DXA.
Kesimpulan: Terdapat korelasi positif yang kuat antara nilai indeks ketebalan korteks femur proksimal menggunakan radiografi konvensional dan T-score kolum femur menggunakan DXA.
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Background and Objective: The prevalence of osteoporosis in Indonesia is high with increased risk of fractures, especially in women. Examination of bone density by DXA is the gold standard in the diagnosis of osteopenia or osteoporosis and predicts fracture risk based on the T-score, but the availability of DXA devices in Indonesia is very limited. The cortical thickness index is a simple, objective parameter, and easily applied to conventional radiography in estimating bone density, but needs to be proven its correlation with the T-score.
Methods: A cross sectional correlation study between the cortical thickness index of proximal femur by conventional radiography and T-score of femoral neck by DXA based on population database in Indonesia, conducted in 31 subjects in the period of July 2012 to June 2016.
Results : With the Pearson correlation test, there is a significant correlation ($p < 0.001$ and $r = 0.76$) between the cortical thickness index of proximal femur by conventional radiography and T-score of femoral neck by DXA.
Conclutions: There is a strong positive correlation between the cortical thickness index of proximal femur by conventional radiography and T-score of femoral neck by DXA.