

Predictors for treatment failure in Clostridium difficile infection receiving Metronidazole therapy

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Background: Metronidazole and vancomycin have been the mainstays of antibiotic treatment for Clostridium difficile infection (CDI) over the last 30 years. Accurate prediction of metronidazole failure, preferably early in the course of disease, could shorten hospital stay and possibly reduce morbidity and mortality in those with mild-to-moderate disease. **Methods:** A retrospective cohort study was conducted among patients hospitalized at Samsung Changwon Hospital, a second care academic hospital during the period from 1 January 2013 to 31 December 2014. Eligible patients were identified by review of stool toxin enzyme immunoassay (EIA) results for C. difficile (Premier Toxin A&B, Meridian Bioscience) during the study period. Diarrhea was defined as at least three loose or watery stool passages within 24 hours for at least 2 consecutive days. **Results:** During the study period, 314 patients were identified as CDIs receiving metronidazole therapy. A total of 62 patients (19.7%) showed the treatment failure. End-stage renal disease (ESRD) requiring dialysis (OR, 2.94; 95% CI, 1.18-7.31, $p=0.021$), fever (OR, 1.19; 95% CI, 1.07-3.69, $p=0.030$), albumin level (OR, 0.58; 95% CI, 0.33-0.99, $p=0.046$), and ongoing treatment with systemic antibiotics (OR, 2.03; 95% CI, 1.08-3.80, $p=0.028$) were significantly associated with increased risk of treatment failure in CDI patients receiving Metronidazole therapy. **Conclusions:** Our study showed that ESRD requiring dialysis and ongoing treatment with systemic antibiotics were identified as novel risk factors for treatment failure in CDI patients with receiving metronidazole therapy. These findings support early consideration of alternative anti-CDI agents in these populations.

Relationship between Body Mass Index and Bone Mineral Density in inactive IBD

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Background/Aims: This study aims to identify a relationship between body weight (BW), body mass index (BMI) and bone mineral density (BMD) of lumbar spine and femur neck in patients under 50 years old with inactive Crohn's disease (CD) and ulcerative colitis (UC). **Methods:** The subjects were CD and UC patients under 50 years old who were regularly followed up in inflammatory bowel disease clinic. The associations between BMD and clinical parameters including BW, height, BMI, disease-onset age, disease-duration, time of disease onset to diagnosis, and biochemical parameters including hemoglobin, c-reactive protein, serum albumin, calcium and phosphorus were evaluated. BMD was measured as Z-score and low BMD was defined less than -1. **Results:** In enrolled 73 CD (male, 51; 69.9%) and 41 UC (male 21; 51.2%), 34 (46.6%) and 15 (36.6%) were low BMD, respectively, without difference between two diseases and sex. In CD, mean BW and BMI in low BMD group were lower than those in normal BMD group (59.1 vs. 65.1, $p=0.023$ and 20.4 vs. 22.8, $p=0.001$). BMI was correlated with BMDs of lumbar spine and of femur neck (0.320, $p=0.006$; 0.390, $p=0.001$) but BW was correlated only with BMD of femur neck (0.376, $p=0.001$). In UC, mean BMI in low BMD group were lower than that in normal BMD group (20.6 vs. 22.1, $p=0.024$). Height, BW, and BMI were correlated with BMD of femur neck (0.360, $p=0.021$; 0.518, $p=0.001$; 0.549, $p<0.001$) but not with BMD of lumbar spine. The mean values of other biochemical parameters were not significant different between low and normal BMD in CD and UC. **Conclusions:** Low BW and BMI could reflect the possibility of low BMD of femur neck in patients under 50 years old with inactive CD and UC.