Prevalence and predictors of nutritional deficiencies and quality of life in patients with ulcerative colitis

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INTRODUCTION

To study the prevalence and predictors of nutritional deficiencies and poor quality of life (QOL) in patients with Ulcerative colitis (UC).

METHODS

It was a cross-sectional prospective study where all the patients visiting gastroenterology services over a year diagnosed as UC were evaluated for macronutrient and micronutrient deficiency after informed consent. Patients with significant comorbid conditions were excluded. Cases were defined as patients with UC and controls were healthy relatives of the cases. We used short inflammatory bowel disease questionnaire (SIBDQ) score < 50 as poor QOL.

RESULTS

126 patients of UC and 57 healthy controls were analysed. The cases and controls were well matched in their demographic and social characteristics. Patients with UC as compared to controls had increased prevalence of being underweight (27.8% v/s3.50%), low mid-arm-circumference (45.23% v/s 12.28%), weak handgrip strength(66.66% v/s 45.61%) and weak lower limb strength (80.15% v/s 42.10%).They showed higher protein deficiency (30.95% v/s 3.50%), albumin-deficiency (25.39% v/s 0%) and cholesterol-deficiency (62.69% v/s 28.07%). Micronutrient deficiency was also significantly more prevalent in patients: calcium-deficiency (44.44% v/s 5.26%) and phosphate-deficiency (20.63% v/s 1.75%). UC patients had high prevalence of other micronutrient deficiencies – Iron-deficiency (87.3%), Folate-deficiency (15.9%),Vitamin B12 deficiency (10.3%) and vitamin D-deficiency(< 11 ng/ml) (19.8%). Serum albumin and iron deficiency emerged as independent predictors of serum calcium-deficiency with OR of 6.8 and 13.4 respectively. Serum folate-deficiency emerged as independent predictor of magnesium-deficiency with OR of 3.93. Serum calcium emerged as independent predictor of serum iron-deficiency with OR of 11.56. Serum albumin-deficiency emerged as independent predictor of vitamin D-deficiency with OR of 4.43.

85 (67.46%) of patients had poor quality of life by SIBDQ questionnaire. Vitamin D (r=0.275), and albumin levels (r=0.399) positively correlated with QOL. Vitamin D-insufficiency (< 32 ng/ml) and histologically active disease by Robarts histological score >3 emerged as independent predictors of poor QOL with OR of 6.0 and 4.0, respectively.

DISCUSSION

Micro and macro-nutrient deficiencies are more prevalent in patients with UC than healthy controls. Albumin levels correlated well with micronutrient deficiencies and QOL. Vitamin D-insufficiency and histologically active disease predict the poor QOL.