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Nutritional status of patients with Crohn's disease compared with population controls

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Malnutrition is observed frequently in patients with Crohn's disease (CD)[1] and may be caused by multiple elements of the disease including; a poor dietary intake as a result of poor appetite, nausea and vomiting, intestinal protein losses and fistulae; increased nutrient requirements from the inflammatory effect of the disease; and malabsorption of nutrients secondary to inflammation, small bowel resection, and bacterial overgrowth[2]. The aim of this study was to determine the nutritional status of a group of hospital inpatients with CD and compare this to population controls.

The nutritional status of 15 consecutive patients admitted to The Royal London Hospital with a diagnosis of CD was collected over a 3 week period and included any admission to the hospital where a new or background diagnosis of CD was identified. All measurements were completed by a registered dietitian. Measurements of 15 population controls were used for comparison.

	Population controls	CD group
Sample size	15	15
Median age (range)	39 (23–57)	26 (18–44)
Male/Female	8/7	10/5

Nutritional status was measured using height, weight, Body mass index (BMI), percentage weight loss over the last 2–3 months, anthropometry [Mid upper arm circumference (MUAC), triceps skinfold thickness (TST) and a functional measure of protein status from hand grip dynamometry (HGD)]. Independent sample student t-tests were used to compare data between the two population groups.

Results for all 30 subjects were obtained. Statistically significant differences were found between the 2 population samples for all nutritional parameters except height, percentage weight loss and hand grip dynamometry.

	Population controls (n = 15)		CD group (n = 15)		
	Mean	SD	Mean	SD	P Value
Mean weight, kg	70.27	14.87	52.70	12.35	<0.02*
Mean Height, m	1.73	0.11	1.72	0.10	0.78
Mean BMI, kg/m2	22.93	2.40	17.53	2.75	<0.01*
Mean percentage weight loss in last 2–3 months	0.80	2.31	3.73	8.22	0.20
Mean MUAC, cm	30.71	4.76	22.50	3.32	<0.01*
Mean TST, mm	14.47	7.61	10.21	7.61	0.88
Mean MAMC, cm	26.65	5.70	19.30	3.07	<0.01*
Mean HGD, kg	41.67	12.58	29.08	10.53	<0.01*

*Statistically significant, $p<0.05$.

As predicted the results show that patients with CD have a poor nutritional status when compared to population controls and therefore puts this group of patients at risk of malnutrition. Malnutrition is related to impaired immune response, skeletal muscle function and wound healing. Poor nutritional status has been shown to be an independent risk factor for postoperative complications in patients with CD[3]. Nutritional support has been shown to improve clinical outcome in patients with CD[4].

In conclusion nutritional status should be frequently measured in patients with CD and nutritional support initiated at the earliest opportunity in those identified to be at risk of malnutrition with the aim of correcting nutritional deficiencies and improving clinical outcome.

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