

## Clinical Research (Including Outcomes of Intervention)

### Effects of registered dietitian counselling on dietary composition and malnutrition indices in cirrhosis patients

A. Kumar<sup>1</sup>, S. Kaur<sup>1</sup>, L. Taylor<sup>1</sup>, M. Raman<sup>1,2</sup>

<sup>1</sup>Division of Gastroenterology, Department of Medicine, Cumming School of Medicine, University of Calgary, 3330 Hospital Drive NW, Calgary, AB, <sup>2</sup> University of Calgary, 6D33 TRW Building, 3280 Hospital Drive NW, Calgary, AB

**Introduction:** In patients with cirrhosis, access to nutrition therapy for patients by a registered dietitian (RD) can be limited and little efficacy data exists.

**Objectives:** This observational study aimed to: 1) describe dietary intake, using an adapted Mediterranean diet Score (aMDS, 13-point scale) along with calorie and protein intakes; 2) describe disease severity and malnutrition status using Meld-Na, Child Pugh (CP), handgrip strength (HGS), and subjective global assessment (SGA), and; 3) describe efficacy of nutrition therapy.

**Methods:** Malnourished outpatients (SGA B/C) with decompensated cirrhosis were recruited in Calgary, Alberta. Patients received an 8-week, RD-led intervention promoting increased protein and calories and Mediterranean diet (MD) behaviours. Three-day food records and malnutrition indices were collected at baseline and 8-weeks. Data is reported as proportions, and means and standard deviations or medians and interquartile range (IQR). Data was analyzed using paired sample t-tests.

**Results:** Nine patients were recruited and at 8-weeks seven completed all assessments. Participants were diagnosed with alcohol-related cirrhosis except one who was diagnosed with primary biliary cirrhosis, were 55% female, 62.3±10.9 years, dry body mass index (BMI)=21.3 ± 3.1 kg/m<sup>2</sup>, Meld-Na=11.0 ±3.9, CP=6.8±1.8, HGS=25.2±3.1kg, had a SGA=B, median caloric intake=2095 (IQR=1626-2515) kcal, median protein intake= 84 (IQR=67-107)grams, and a median aMDS score=5.0(IQR=2.5-5). At 8-weeks only HGS increased significantly to 27.4±6.8kg (p = 0.02). Although not significant, both calories and protein increased to 2595 (IQR=1906-2847)kcal and 88 (IQR=86-117)grams. Four patients also improved their aMDS score. The following MD behaviours improved: increased consumption of nuts (n=6), fish (n=3), legumes (n=1), and decreased sweets and baked goods (n=5).

**Conclusions:** A RD-led intervention appeared to improve caloric and protein intake and MDS. HGS also showed slightly improved muscle strength.

**Significance to Dietetic Practice:** RDs may find it valuable to track caloric intake, protein grams, MD scores and HGS over time to monitor the success of nutrition therapy in cirrhosis patients.

Funded by: Cumming School of Medicine Seed Grant, University of Calgary