COMPARISON OF A CHINESE HERBAL MEDICINE (CCH1) AND LACTULOSE AS FIRST-LINE TREATMENT OF CONSTIPATION IN LONG-TERM CARE: A RANDOMIZED, DOUBLE-BLIND, DOUBLE-DUMMY, AND PLACEBO-CONTROLLED TRIAL

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Many institutionalized patients and their healthcare providers are dissatisfied with current laxative therapy. This study compared therapeutic efficacy, safety, and laxative cost of an herbal formula (CCH1) and lactulose for long stay patients with constipation. In this double-blind, double-dummy, and placebo-controlled trial, we randomized 93 residents with chronic constipation from two long-term care facilities in Taiwan to receive either CCH1 with lactulose placebo or CCH1 placebo with lactulose for 8 weeks, then followed up for 4 weeks without study medication. Both treatments were effective and well tolerated for patients, but CCH1 produced more spontaneous bowel movements, less rectal treatments, less amount of rescue laxative, and lower laxative cost than lactulose during treatment. No significant differences were found in stool consistency, stool amount, global assessment, and safety concerns. In conclusion, our results suggest that CCH1 may have better efficacy and could be used as an alternative option to lactulose in the treatment of constipation in long-term care.

ASSOCIATION OF THE PROPROTEIN CONVERTASE SUBTILISIN/KEXIN-TYPE 2 (PCSK2) GENE WITH GRIP STRENGTH: TAICHUNG COMMUNITY HEALTH STUDY FOR ELDERS (TCHS-C)

PCSK2 基因多型性與握力之相關性在社區老人的研究

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Background: Frailty is one of the greatest gerontological challenges faced by Taiwan. Frailty has been defined as a multidimensional syndrome, and is characterized by the loss of reserves including energy, physical ability, cognition and health. Low grip strength is one of frailty markers defined by Fried et al. The gene encoding the proprotein convertase subtilisin kexin 2 (PCSK2) is located on chromosome 20p11.2. Several studies have reported the genetic variation in PCSK2 gene was associated with type 2 diabetes, which was hypothesized to be a risk factor of frailty. The purpose of this study was to determine if single nucleotide polymorphisms (rs4814615 and rs2021785) of PCSK2, are associated with grip strength in Taiwanese elders.

Methods: Two SNPs (rs4814615 and rs2021785) of PCSK2 in a total of 470 unrelated elders (250 males and 220 females) were genotyped. Both of these two SNPs have two alleles, A and G, result in three genotypes, A homozygotes (AA), heterozygotes (AG), and G homozygotes (GG). Linkage disequilibrium (LD) was analyzed for these two SNPs. Grip strength was measured by handgrip dynamometer (TTM-110D, TTM co. Japan) and low grip strength was defined as

grip strength in the lowest quintile according to subgroups of gender and body mass index (83 elders as low grip strength and 387 elders as normal grip strength).

Results: The minor allele frequency for rs4814615 and rs2021785 was 0.4926 and 0.3109, respectively. After adjusting for age, gender, and body mass index, our study indicates that SNP rs4814615 G/A genotype was significantly associated with decreased grip strength (β=-1.179 Kg, p<0.05) and SNP rs2021785 was not associated with decreased grip strength. In addition, the adjusted odds ratios of low grip strength were at borderline significance [1.952 (95% CI: 0.984-3.874) among elders with SNP rs4814615 G/A genotypes compared with elders with GG genotype, p=0.056]. On the contrary, the adjusted odds ratios of low grip strength were significantly associated with SNP rs2021785 A/A genotype [0.316 (95% CI: 0.100-0.998) among elders with SNP rs4814615 G/A genotypes compared with elders with GG genotype, p=0.049].

Conclusion: We conclude that polymorphisms rs4814615 and rs2021785 in the PCSK2 gene are predictors of grip strength, indicating rs4814615 and rs2021785 appear to be a susceptibility biomarker of grip strength. But future study may be required.

AGREEMENT OF BODY COMPOSITION MEASURED BY BIOELECTRICAL IMPEDANCE ANALYSIS AND DUAL-ENERGY X-RAY ABSORPTIOMETRY IN OLDER ADULTS

成老人使用生物電阻抗分析法與雙能 χ光吸光測定法測量體組成的一致性

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Purpose: This study aimed to compare the estimates of body fat mass percentage (%BF) and lean mass percentage (%BL) by performing bioelectrical impedance analysis (BIA) and dual energy X-ray absorptiometry (DXA) in Chinese older adults.

Methods: A total of 1,382 older adults aged 55 years and over was recruited in a community-based cross-sectional study in Taichung City, Taiwan from 2010 to 2012. Among them, 638 (46.2%) were males and 664 (48.0%) were aged 65 years and older. Their body composition was measured by both bioelectrical impedance analysis (BIA) and dual energy X-ray absorptiometry (DXA) examinations. For each assessment, two indicators (%BF and %BL) in segmental body (legs, arms, and trunk) and in total body were calculated. Bland-Altman analyses and multiple regression analyses were used to assess relations of these indicators measured by BIA and DXA.

Results: Compared with DXA, BIA underestimated %BF [in males: -2.4, -2.8 to -2.0 (mean biases, 95% limit of agreement); in females: -1.44 (-1.80 to -1.77)] and overestimated %BL [in males: 6.3 (5.9 to 6.7); in females: 5.0 (4.7 to 5.3)].