**Methods:** A randomized, double-blind placebo controlled trial was conducted on 150 healthy Chinese elderly (65–70 years) who were supplemented during 3 months with 13.7 g/day of a milk-based preparation of wolfberry (Lacto-Wolfberry) or a placebo. Subjects underwent ophthalmic and TCM examinations before and after supplementation and were vaccinated against influenza virus at 30 days to assess their immune status.
**Results:** Compared to placebo, subjects who consumed Lacto-Wolfberry had higher IgG-specific antibody response to vaccine at days 60 and 90 ($p = 0.001$), higher seroconversion (27.7% vs 8.8%; OR = 3.4 [1.21; 9.61]; $p = 0.021$) and protection rates (60.0% vs. 41.2%; OR = 1.88 [0.90; 3.91]; $p = 0.092$). Subjects supplemented with Lacto-Wolfberry demonstrated less macula hypopigmentation ($p < 0.01$) and soft dursen ($p = 0.02$) than placebo group. Syndrome of Yin deficiency (i.e. dry mouth and throat, vexation and insomnia, pulse condition) was improved in Lacto-Wolfberry group ($p < 0.01$). In parallel, an increase in plasma anti-oxidant capacity was exhibited in Lacto-Wolfberry vs. placebo group ($p < 0.01$).
**Conclusions:** Long-term dietary supplementation with Lacto-Wolfberry contributes to reinforce immune defense in elderly and may be beneficial for lowering the risk of age-related macular degeneration. These anti-ageing benefits might be related to wolfberry's anti-oxidants property.

## P514
## Prevalence of sarcopenia in hospitalized elderly patients in Turkey: a cross-sectional study

M. Yuruyen[1], H. Yavuzer[2], S. Yavuzer[3], M. Cengiz[3], N. Ozgur Yurttas[2], A. Alitoska[2], M.S. Islamoglu[3], E. Imre[3], A. Doventas[2], D.S. Erdincler[2]
*[1]Cerrahpasa Medical School, Istanbul University, Istanbul, Turkey; [2]Department of Geriatrics, Cerrahpasa Faculty of Medicine, Istanbul University, Istanbul, Turkey; [3]Department of Internal Medicine, Cerrahpasa Faculty of Medicine, Istanbul Univer, Istanbul, Turkey*

**Introduction:** Sarcopenia is known to be significantly associated with functional impairment and disability in elderly. We aimed to investigate the prevalence of sarcopenia and its related conditions in hospitalized elderly patients via bioelectrical impedance analysis (BIA) method.
**Methods:** Between October 2013-January 2014 patients older than 65 years hospitalized in medical wards were included. Nutrition status,hand grip strength, walking speed and free fat mass index (FFMI) were evaluated by MNA test, hand dynamometer, 'get up and go test' and BIA (Bodystat Quadscan 4000) method respectively. The relationship between variables and sarcopenia were examined with Spearman's correlation test.
**Results:** In this study composed of 84 patients (48 female, 57.1%), mean age, comorbid diseases, number of medication and hospitalization period days were detected as 75.7±7.3, 3.29±1.9, 7.1±3.6, 23.6±15.3, respectively. Risk of malnutrition, malnutrition and sarcopenia prevalence were found 53.6%, 19%, 7.1% respectively. The correlation analysis of sarcopenia were associated with; longer duration of hospitalization ($r = 0.363$, $p = 0.001$), lower body mass index, low-waist, mid-upper arm and calf circumference ($r = -0.444$, $p < 0.0001$, $r = -0.369$, $p = 0.001$, $r = -0.266$, $p = 0.015$, $r = -0.373$, $p < 0.0001$ respectively), smoking ($r = 0.214$, $p = 0.05$), malnutrition ($r = 0.301$, $p = 0.006$), chronic lung disease ($r = 0.244$, $p = 0.025$), presence of malignancy ($r = 0.265$, $p = 0.015$). Low hand grip strength were associated with lower walking speed and FFM ($r = 0.364$, $p = 0.001$; $r = 0.418$, $p < 0.0001$ respectively).
**Conclusion:** Sarcopenia that can be overlooked is an important geriatric syndrome in elderly. Particularly, if a patient has longer duration of hospitalization, low BMI, malnutrition, chronic lung disease and malignancy sarcopenia should be suspected and screened with methods such as anthropometric measurements and BIA.

## P515
## Prevalence of fecal incontinence in the elderly outpatient clinic

M. Yuruyen[1], N. Demir[1], H. Yavuzer[2], N. Ozgur Yurttas[2], S. Sahin[1], Z. Tas[1], A. Doventas[2], D.S. Erdincler[2], T. Beger[1]
*[1]Cerrahpasa Medical School, Istanbul University, Istanbul, Turkey; [2]Department of Geriatrics, Cerrahpasa Faculty of Medicine, Istanbul University, Istanbul, Turkey*

**Introduction:** Fecal incontinence (FI) significantly impairs the quality of life in elderly. we aimed to evaluate the prevalence of FI and its associated risk factors in the outpatient clinic.
**Methods:** This study is a cross-sectional study. Patients aged over 60 years who admitted to our geriatric outpatient clinic between October 2013-January 2014 were enrolled. Demographic characteristics, anthropometric measurements, marital and educational status, FI, urinary incontinence (UI), constipation, comorbid diseases, medications and history of abdominal operations, birth status were questioned. Fecal Incontinence Severity Index (FISI) was used for the evaluation of FI. Data were analyzed with Student's T test, Chi-square tests. Odds Ratio (OR) was used for risk assessment of FI.

Table 1. Demographic characteristics of patients with fecal incontinence (FI) and their evaluation with Fecal Incontinence Severiy Index (FISI)

| Demographic characteristic | |
|---|---|
| Gender (F/M) | 13/5 |
| Age, mean±SD | 75.1±8.4 |
| Number of comorbid diseases, mean±SD | 3.22±0.94 |
| Number of drugs taken, mean±SD | 4.11±1.3 |
| Urinary incontinence (n, %) | 14 (77.8) |
| History of abdominal operation (n, %) | 10 (55.6) |
| FI type (n, %) | |
| Not noticing the incontinence | 7 (38.9) |
| Noticing but could not reach | 10 (55.6) |
| As urge defecation | 1 (5.6) |
| FI period (n, %) | |
| <1 year | 9 (50) |
| 1–5 years | 8. (44.4) |
| 6–10 years | 1 (5.6) |
| Concomitant diseases (n) | |
| Diarrhea | 5 |
| Diabetes mellitus | 5 |
| Neurologic diseases | 4 |
| Others | 6 |
| **FISI** | |
| Defecation type (n, %) | |
| Gas | 2 (11.2) |
| Liquid stool | 11 (61.1) |
| Solid stool | 4 (22.2) |
| Mucus | 1 (5.6) |
| Defecation frequency (n, %) | |
| Once a day | 1 (5.6) |
| Two or more times a day | 5 (27.8) |
| Two or more times a week | 3 (16.7) |
| Once a week | 9 (50) |

F, female; M, male; n, number; SD, standard deviation.

**Results:** 183 female (71.8%) and 72 male (28.2%) were enrolled to the study. The mean age was 74.4±8 years. Comorbid diseases and number of medications were detected as 3.09±1.5, 3.63±2 respectively. FI prevalence was 7.1%. UI and constipation were 44.3% and 30.2% respectively. Demographic characteristics of the patients and the evaluation of FI by FISI were shown in Table 1. We observed

that the higher mean age, male sex, presence of hypertension and UI were risk factors of FI significantly. Although concomitant diseases such as diabetes mellitus, depression, chronic diarrhea, dementia, Parkinson's disease and the previous abdominal operations were higher risk factors for FI; it was not statistically significant.
**Conclusions:** Urinary incontinence, male gender, age and hypertension increases the risk of FI in the elderly patients. FI should be evaluated by FISI in the elderly outpatient clinics.

### P516
### The association between the number of teeth and appendicular skeletal muscle mass loss in elderly Koreans

S.Y. Kim[1], C.W. Won[1], K.R. Kwon[2]
*[1]Kyung Hee University Medical Center, Seoul, South Korea; [2]School of Dentistry, Kyung Hee University, Seoul, South Korea*

**Objectives:** The purpose of this study was to examine whether the number of natural teeth in Korean elderly was associated with appendicular skeletal muscle (ASM) mass after adjusting for potential confounding variables.
**Design:** This study was based on data from the 2008–2010 Korea National Health and Nutritional Examination Surveys. The subjects included 1,058 males and 1,582 females ≥65 years of age. ASMs were measured by dual energy X-ray absorptiometry.
**Results:** The frequency of functional dentition increased with the quartile value of ASM mass in both males and females (males, $P < 0.0001$; females, $P = 0.0001$) and a positive correlation was observed between the number of teeth and ASM mass. In particular, the positive correlation was significant in males ($P = 0.0044$) even after adjusting for age, body mass index, accompanying disease, protein intake, smoking status, drinking status, physical activity, periodontitis, and dental prosthesis use.
**Conclusion:** ASM mass correlated with the level of natural dentition in Korean males ≥65 years. In addition to the number of teeth, muscle mass was also correlated with dental-related behavior.

### P517
### Vitamin D deficiency and frailty criteria

M.E.D. Mejri, A. Laanani, I. Ben Ghorbel, B. Salem, F. Said, H. Hamzoui, M. Khanfir, M. Lamloum, H. Houman
*Hopital la Rabta, Tunisia*

**Introduction:** The frailty in the elderly is often a purely clinical entity. The purpose of this work is to establish a relationship between vitamin D levels and frailty in the elderly.
**Patients and Methods:** A retrospective study including 35 patients aged over 65 in which the parameters of fragility were noted. The frailty syndrome is retained if at least three criteria were present. We studied levels of vitamin D: NL >20 ng/ml, insufficient if 10–20 ng/ml deficit if <10 ng/ml.
**Results:** The sex ratio M/F was 1.9. The average age was 75 years. The parameters of fragility were: poly-pathology (94%), 95% of men versus 91% of women; poly-medication (91%); depression (28%), 17% versus 50%; dementia (20%), 17% versus 25%; social isolation (17%), 13% versus 25%; concept fall (14%), 13% versus 16%; Static disorder (38%), 35% versus 42%; gait disturbances (29%), 22% versus 42%. The average circumference of the calf in our study was 32 cm; it was pathologic in 52% versus 8%. The majority of the patients was completely autonomous, 14% was dependent on environment: 4% versus 33%. 85% of patients had frailty: 82% versus 91%. 37% had Vitamin D insufficiency: 52% versus 8%. 57% had a vitamin D deficiency (39% versus 84%). In patients with a syndrome of frailty, 96% had insufficient or deficient in vitamin D.
**Conclusion:** Vitamin D deficiency is common in the elderly and may be regarded as predictive factor of onset of frailty.

## Organ- and system-linked dysfunction

### P518
### A case of statin induced cough

S. Yavuzer[1], H. Yavuzer[2], M. Cengiz[1], S. Yadigar[1], M. Yuruyen[3], A. Doventas[2], Y. Karter[1]
*[1]Department of Internal Medicine, Cerrahpasa Faculty of Medicine, Istanbul Univer, Istanbul, Turkey; [2]Department of Geriatrics, Cerrahpasa Faculty of Medicine, Istanbul University, Istanbul, Turkey; [3]Cerrahpasa Medical School, Istanbul University, Istanbul, Turkey*

**Introduction:** Asthma and chronic obstructive lung disease are known as the most common etiological agents of chronic coughing. Meanwhile statins have begun to participate in this classification causing interstitial lung disease (ILD).
**Case:** A 85 year-old female patient was admitted with the complain of dry cough. She has been followed with the diagnoses of hypertension, hyperlipidemia, rheumatoid arthritis (RA). Pretibial oedema and two sided rales on the lower part of the lungs were detected. Hemogram and biochemical findings were normal. Two sided pleural effusion and pattern of interstitial oedema with an heart dilatation were detected (Figure 1). Global hypokinesis of left ventricle with an ejection fraction (EF) of 35% on echocardiography were seen. RA associated with interstitial lung disease and pulmonary toxicity of methotrexate were ruled out.
We detected minimal bilateral pleural effusion and an increase from 35% to 50% in EF with normal physical signs except dry cough after three months. The statin usage was stopped. The patient relieved more significantly. The complete cure of the cough occurred. She had not used any antitussives. She had not used any antitussives. After the one year follow up pleural effusion was disappeared (Figure 2).



Figure 1. Pleural effusion when using statin medication.



Figure 2. Normal chest radiography after statin medication stopped.

**Discussion:** Fernandez et al. reported that 1–40/10,000 of the biopsy proven. The patients with ischemic heart disease seem more