Background
The aging of the population in developed countries is a growing problem today. Prevalence of chronic diseases, such as osteoporosis, increases with age. It is estimated that 900,000 people (9% of the population) aged >50 suffer from osteoporosis in Hungary. This condition highly increases the risk of fractures of vertebra and hip-bone, which often lead to fatal consequences. Many studies have proven that a low vitamin D level increases the risk of bone fractures. Adequate vitamin D level is essential to prevent bone loss and structural damage of the bone matrix, which also prevents fractures.

Objective
To compare vitamin D levels of hospitalized hip fractured patients with hospitalized non-fractured patients, as well as to detect the prevalence of low-energy falls, and to analyze the differences between the groups.

Materials & Methods
The fractured group was recruited from the Traumatology Department and the control group was recruited from the Department of Internal Medicine and Geriatrics. The recruitment period was from 2011 June to 2011 September. Control group was matched according to age and gender. Vitamin D levels were measured with ELISA kit and were expressed in ng/ml. Subjects were asked about previous falls during a personal interview.

Results I.
Twenty-two patients were in the fractured group (mean age 84.09 years, SD ± 6.78) and 33 patients were in the control group (mean age 80.52 years, SD ± 6.56). The majority of patients were women in both groups.

Results II.
The mean vitamin D level was 33.13 ng/ml in the fractured group and 39.7 ng/ml in the control group (p=0.23). Vitamin D insufficiency (20-30 ng/ml) was higher in the control group (27.3% vs. 21.2%), as well as the prevalence of deficiency (<20 ng/ml) (27.3% vs. 12.1%).

Results III.
Patients of the fractured group reported considerably more falls within one year than the control group. An important finding is that about 36.4% of fractured patients, and 30.3% of control patients reported more than 2 falls in the previous year.

Conclusion
Despite vitamin D levels were measured during summer time, the insufficiency was markedly presented in both patient groups. Since the difference in vitamin D levels was not significant between the investigated groups, other risk factors could be responsible for fractures besides low vitamin D level. A remarkable factor may be falls, because more than half of the fractured patients reported multiple falls in the previous year. Impaired physical functions and polypharmacy are possible underlying factors.