

# Osteoporosis as a side effect of antineoplastic therapy

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**Conflict of interest:** All the authors - nothing to disclosure

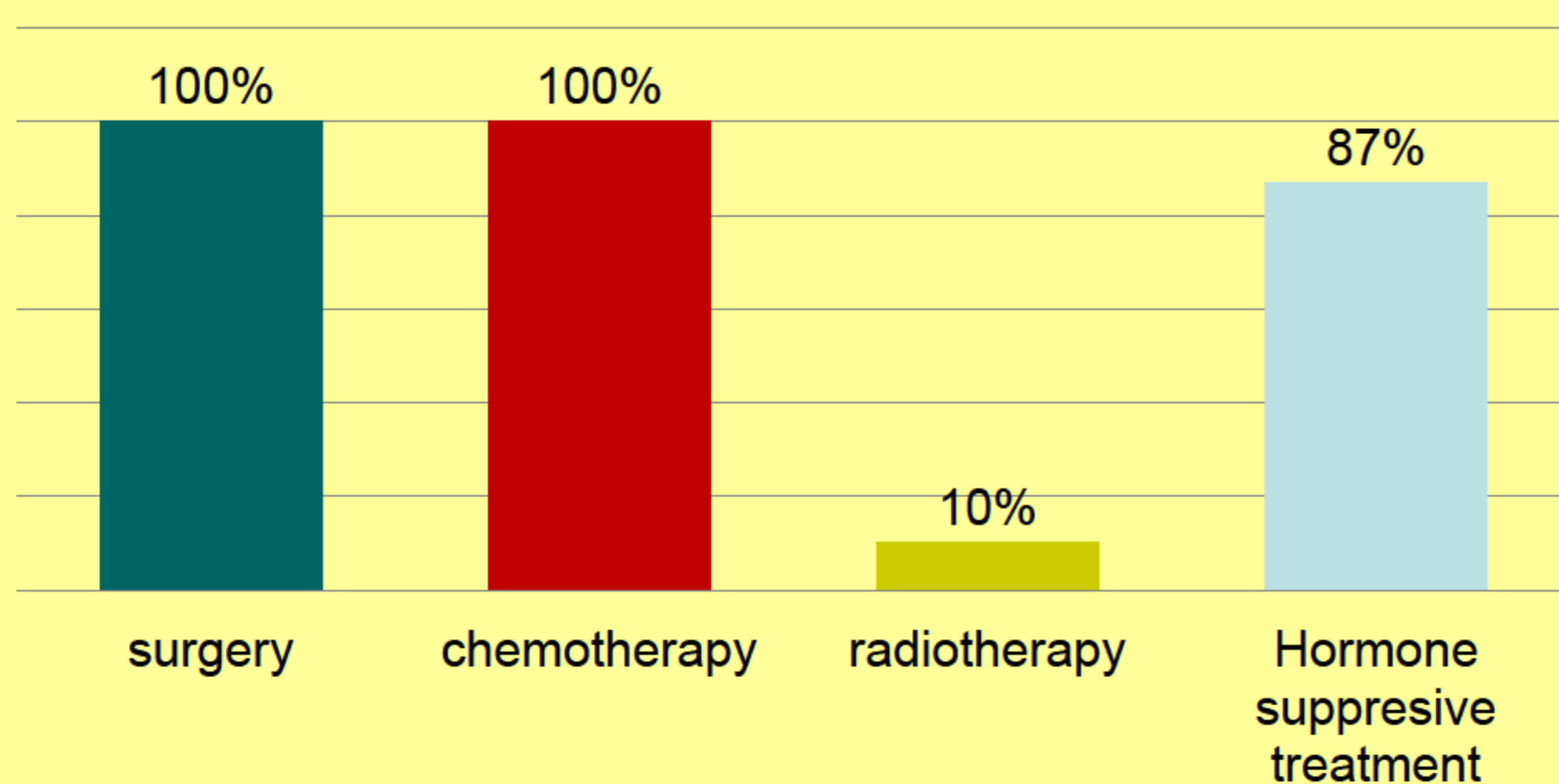
**Objective:** The aim of this retrospective study is to evaluate the bone status in patients receiving oncological treatment, like radiation, chemotherapy, adjunctive therapies, and surgery.

**Material and methods.** Medical records of 102 womens (mean age 59.12 yrs) with breast cancer history reffered for endocrine evaluation were retrospectively analysed. Demographic data, bone densitometry parameters, prevalent fractures and antineoplastic treatments history were collected.

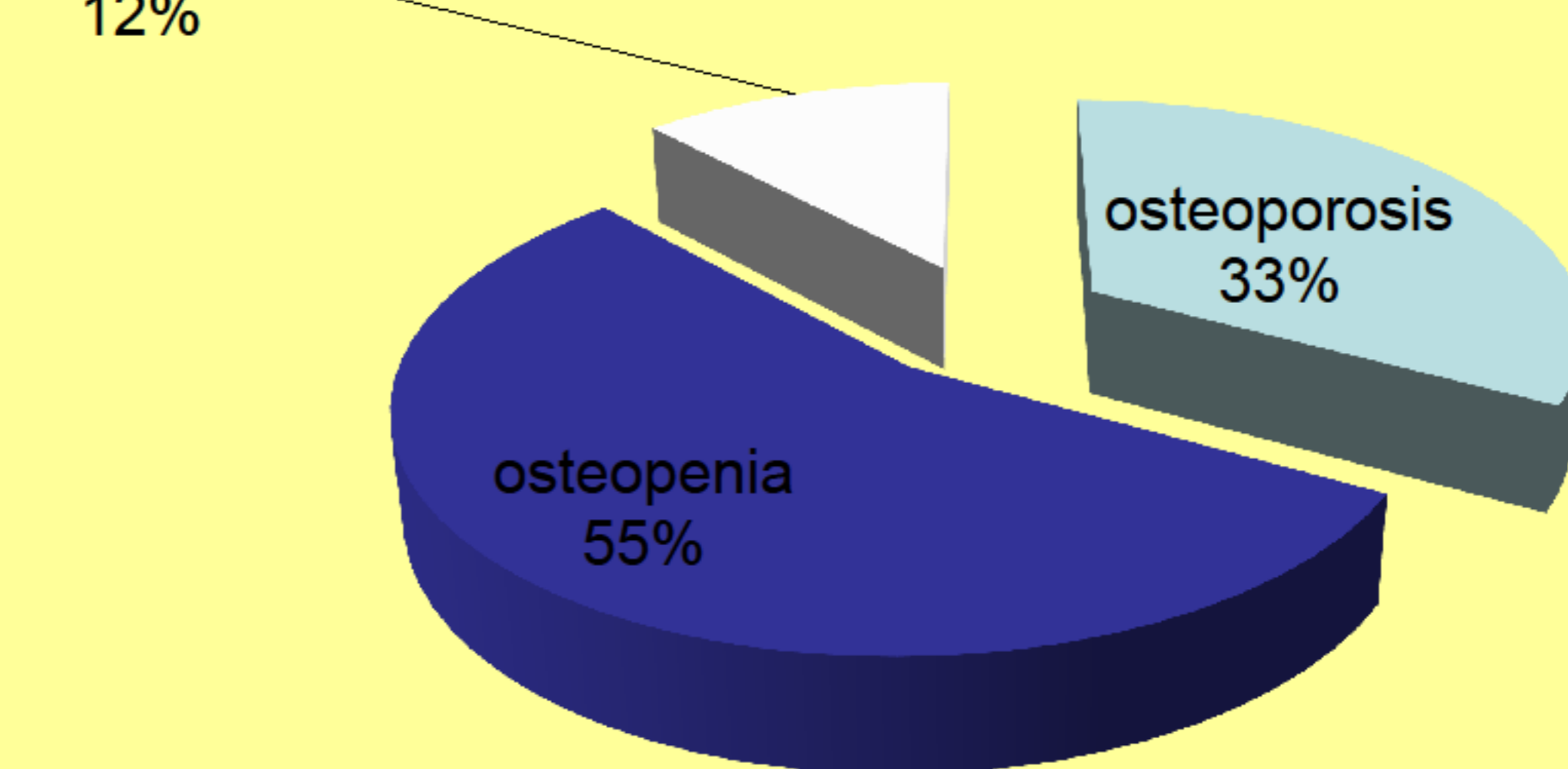
## Results:

All of the patients had history of breast surgery and chemotherapy; 10% had also radiotherapy and 87% had a form of hormone suppressive treatment. According to the lowest T score, 33% had densitometric criteria for osteoporosis and 55% had osteopenia; 13.1% of the subjects had prevalent fractures at the evaluation moment. 31% of the patients had the lowest Z score less than -1SD in the absence of early menopause. According to our data, the prevalence of decrease in BMD in serial measurements was 40.5% in chemotherapy only patients, 62% in AI only patients and 37.5% in patients with sequential combination between SERM and AI. Only 4 patients out of 34 osteoporotic patients received treatment for their osteoporosis.

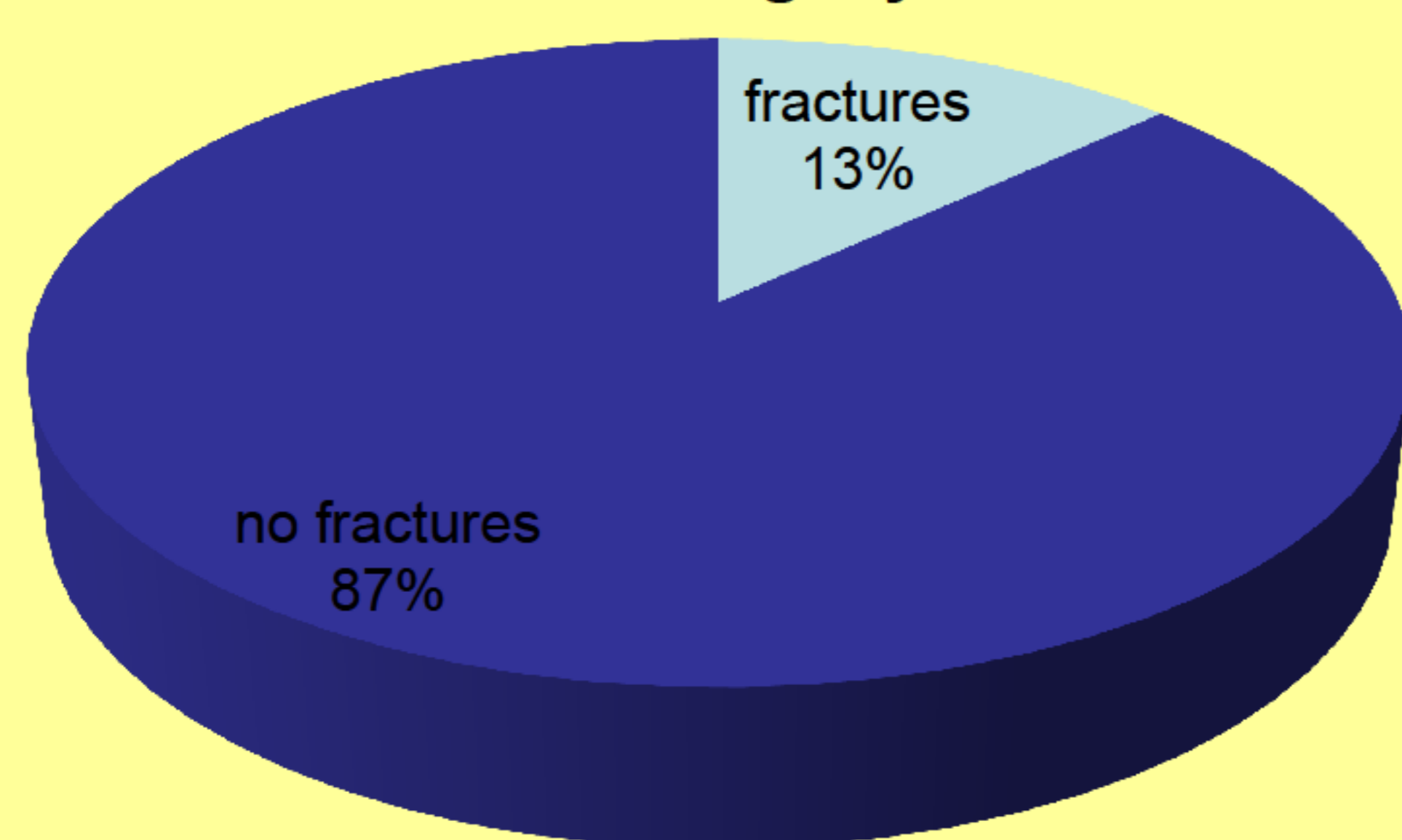
**Prevalence of different type of antineoplastic treatments**



**Prevalence of osteoporosis/osteopenia among our study group**

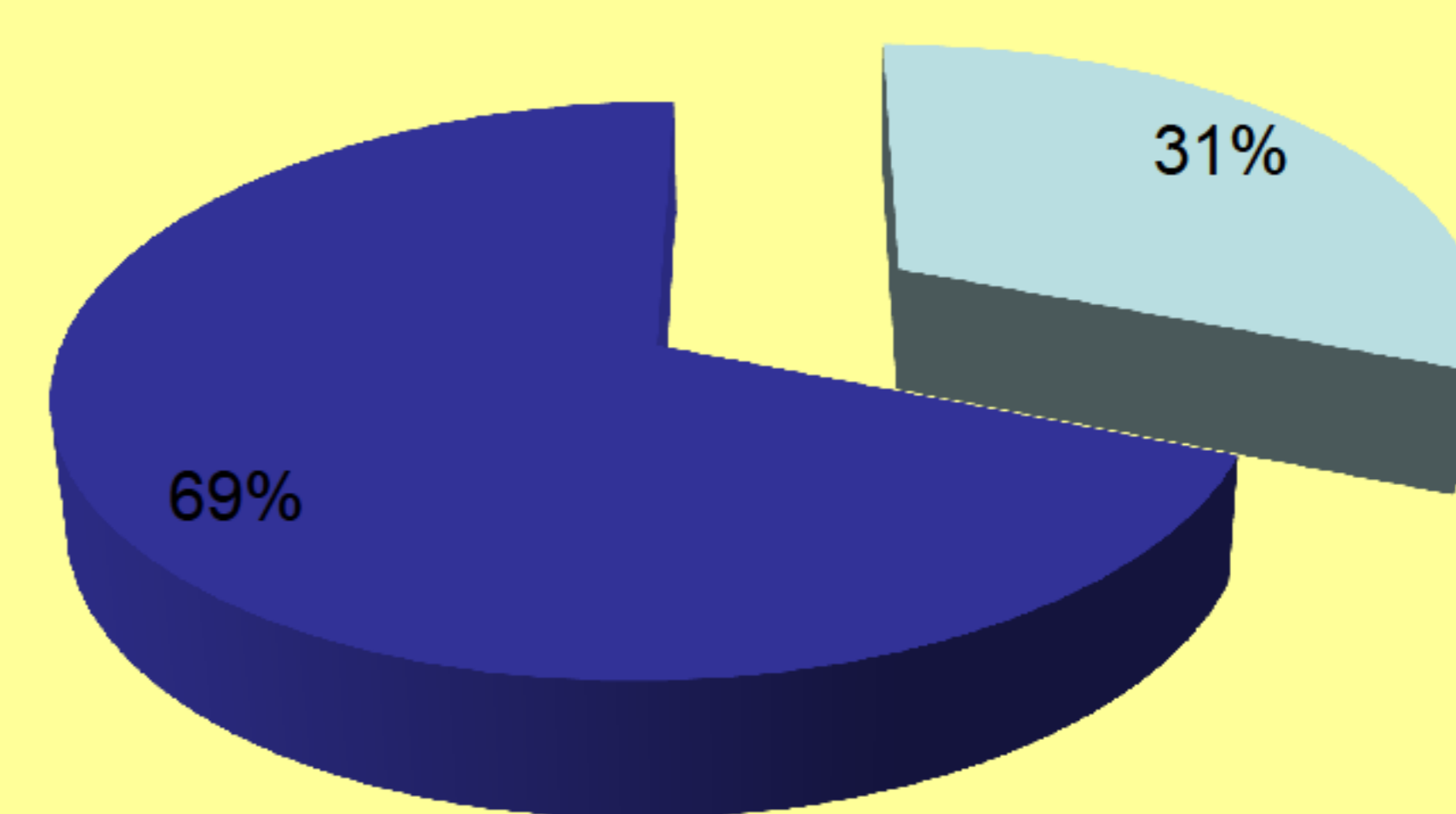


**Prevalence of fragility fractures**

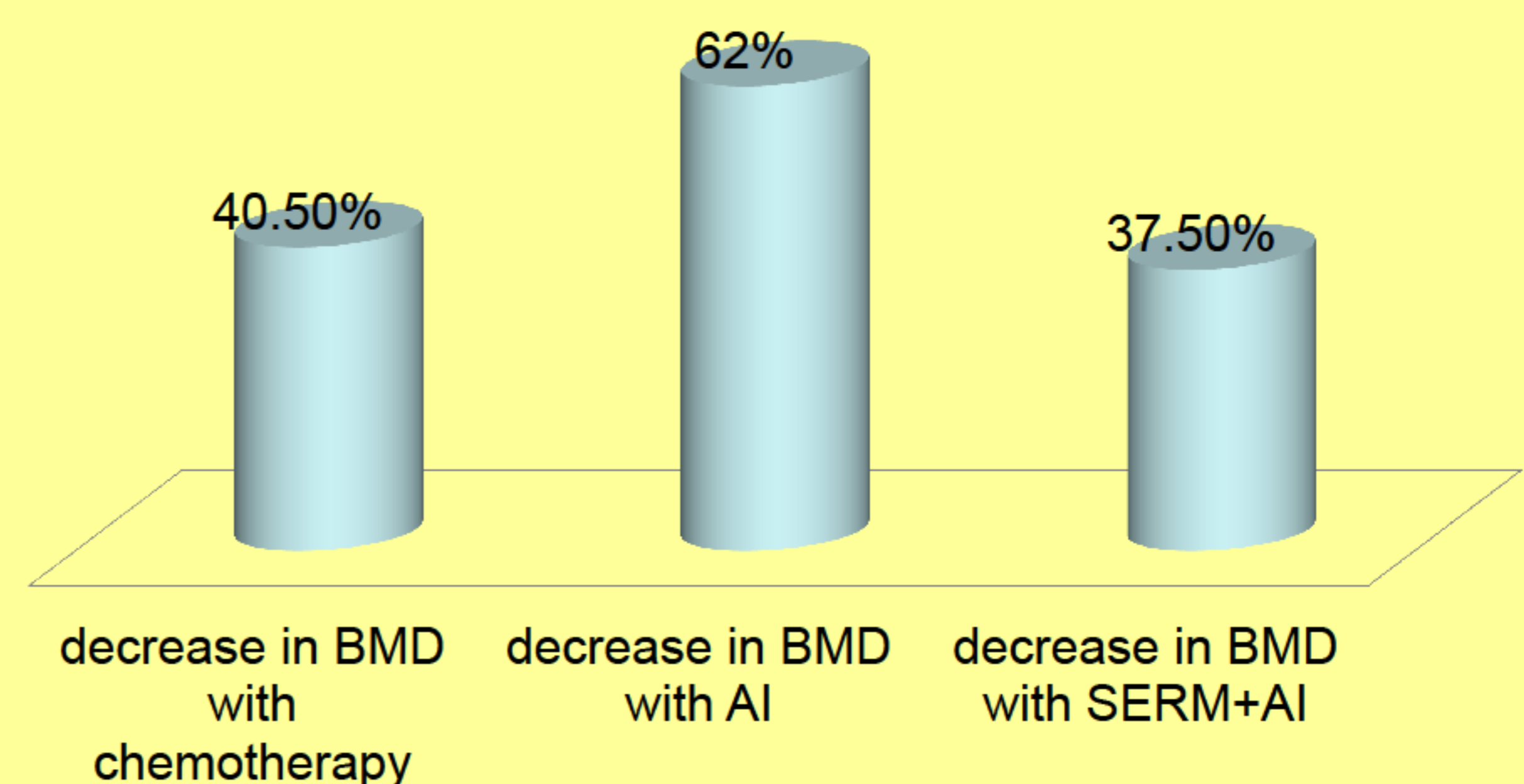


**Prevalence of low Z score**

■ lowest Z score less than -1SD in the absence of early menopause ■ normal



**BMD evolution**



## Conclusion.

Our data suggest an increased prevalence of decrease in BMD in patients related to their history of antineoplastic treatments; from all the combinations, chemotherapy alone had almost the same effect as sequential combination of SERM and AI and the most agresive for the bone was proved to be chemotherapy and AI treatment.