

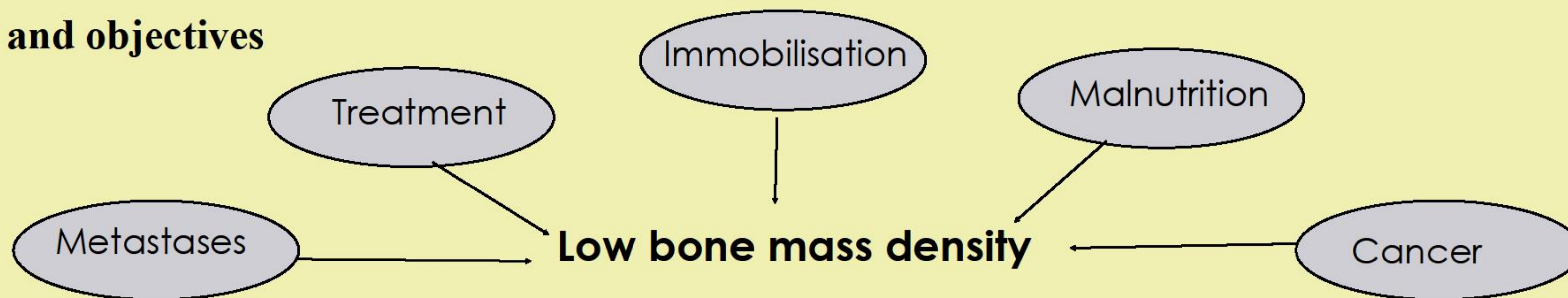
The evaluation of bone mass density (BMD) in patients after therapy of solid tumors



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Background and objectives

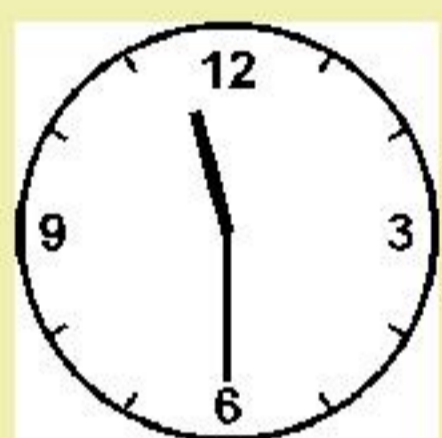


Aim – to determinate the influence of factors on BMD and the prevalence of abnormal bone turnover

Materials and methods:



67 patients (43 boys, 24 girls), 4-27 years of age



> 1 year after cessation of treatment



2006-2011



Solid tumor

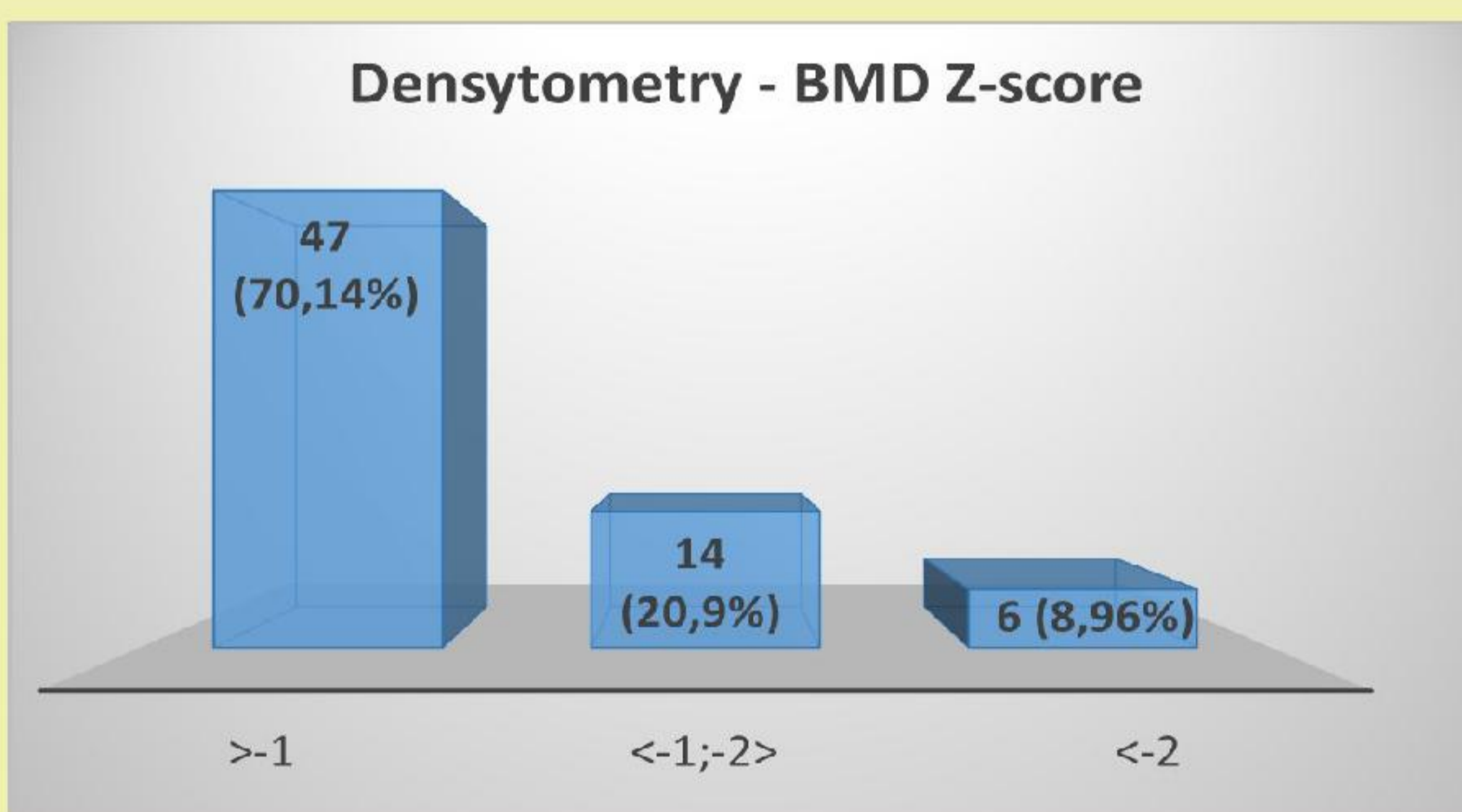


BMD (z-score), BMI SDS, Height SDS, IGF-1 SDS, PTH

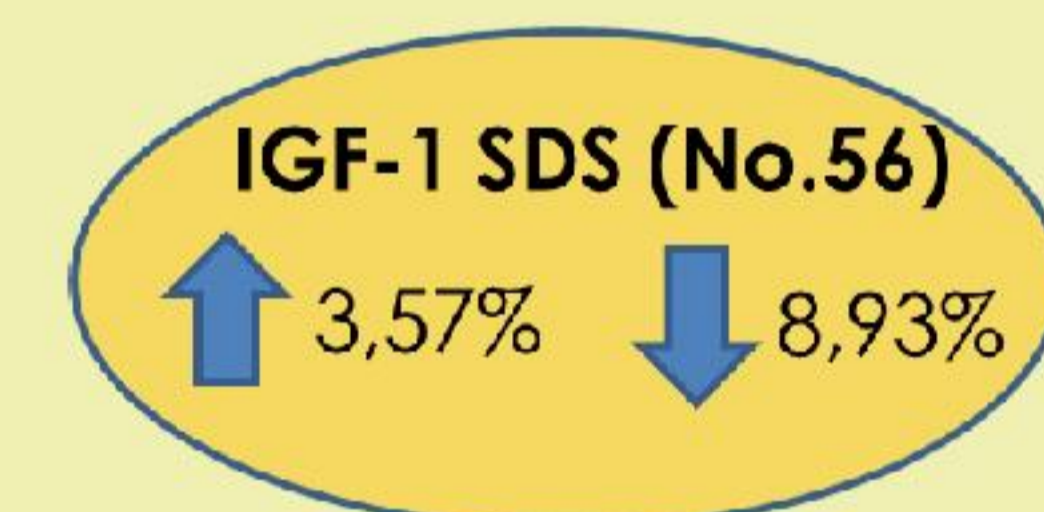
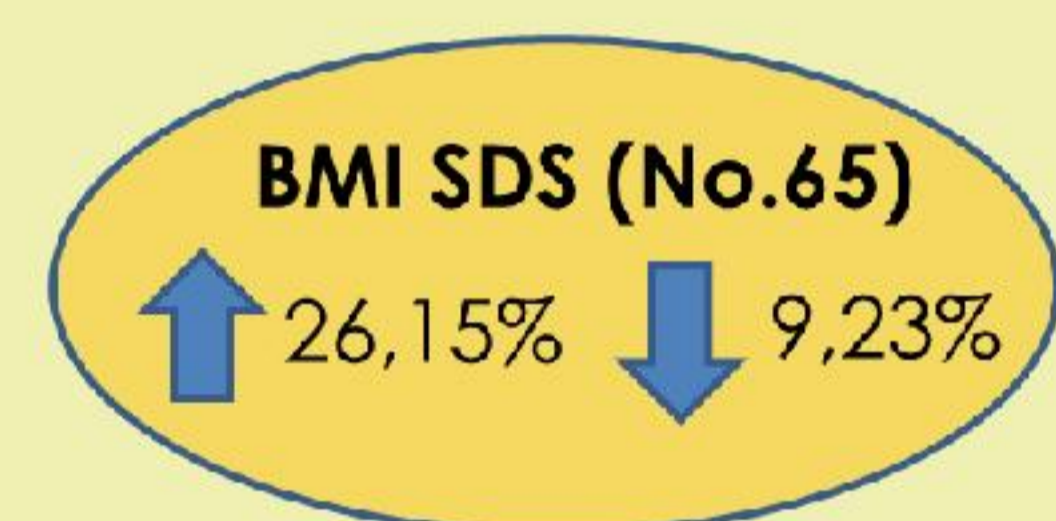


Statistica 12

Results:



Parameters in study group



Parametr	No	Weight and/or height deficiency n=13	Without deficiency n=52	P value
Age	67	15,34±5,34	12,91±5,98	0,16
BMD (z score)	65	-1,56±2,05	-0,25±0,90	0,033
IGF-1 SDS	54	-0,91±0,90	0,11±1,20	0,01
PTH (pg/ml)	59	38,98±23,56	33,31±21,41	0,35

Correlation



BMD (z-score) and IGF-1 SDS : $r=0.39$ $p<0.01$

BMD (z-score) and PTH: $r=0.27$ $p=0.036$

BMD (z-score) and BMI SDS: $r=0.25$ $p=0.042$

BMD (z-score) and height SDS: $r=0.44$ $p<0.01$

Conclusion:

- Disorders of bone mineral substrate are multifactorial, BMI, height, PTH, IGF-1 have an influence on BMD
- Patients with weight and/or height deficiency may be more likely to lose bone mass as a result of treatment.
- Disorders of bone mineral density can also be a problem in pediatric patients, especially after anti-cancer therapy

Confirmation of the results of the above work requires further verification.

