UNIVERSITY OF LATVIA

Influencing factors that contribute to bone metastasis in breast cancer patients

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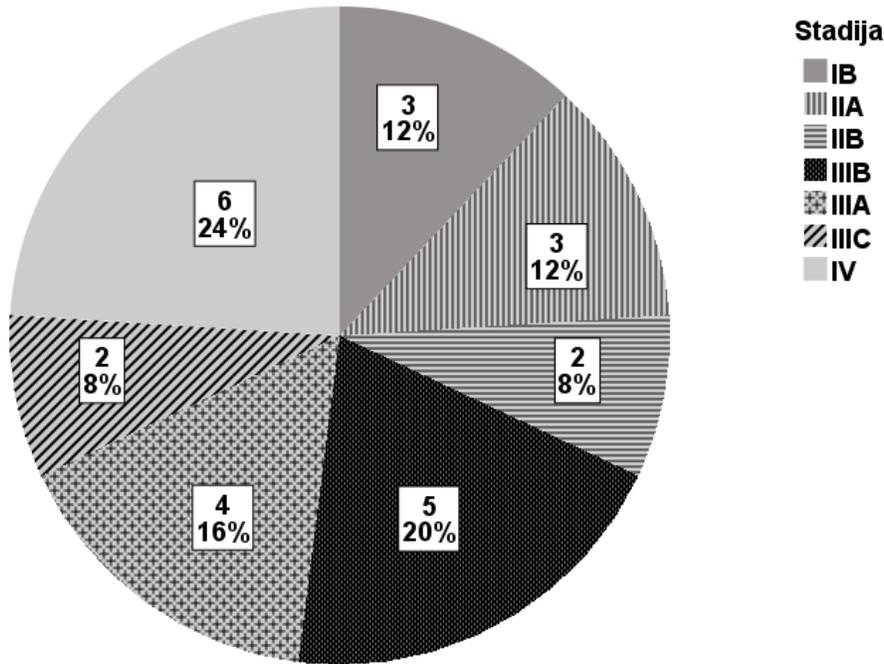[1] *University of Latvia, Faculty of Medicine, Riga, Latvia*

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Summary

- **Background.** Bone metastasis is extremely common in women with breast cancer. The most common anatomical location are the spine, pelvis, ribs and long bones. Clinically it manifests with severe pain, pathologic fractures and spinal cord compression

- **Aim.** To find out the factors that influence development of bone metastasis in breast cancer patients

- **Methods.** The study is retrospective, including 25 patients. Data were collected from Pauls Stradiņš Clinical University Hospital. All patients have been diagnosed with breast cancer with bone metastases. The following data relevant to the study were collected: age at diagnosis, stage, breast cancer grade, location of bone metastases, time when bone metastases were diagnosed

Research Results

Among 25 patients who had breast cancer with bone metastases, the average age is 54 years

6 patients who were diagnosed with bone metastasis had Stage IV (24%)
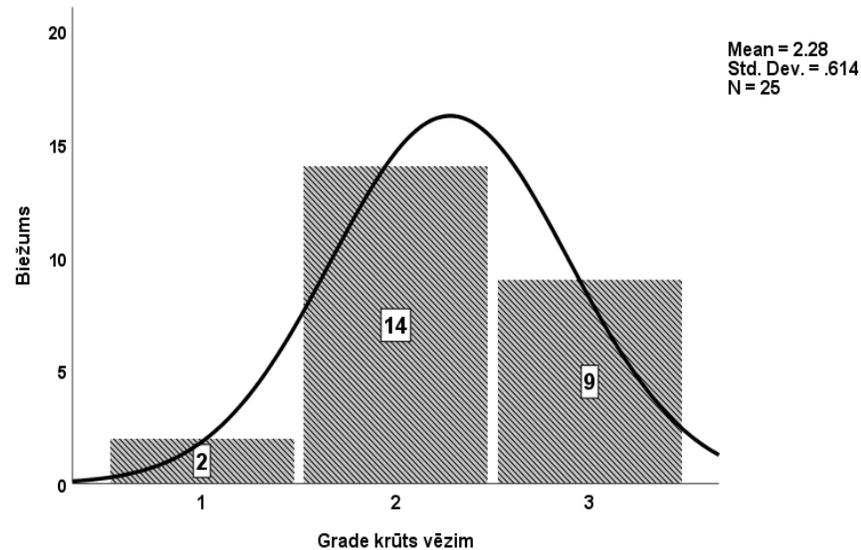
5 patients Stage IIIB (20%)

4 patients Stage IIIA (16%)
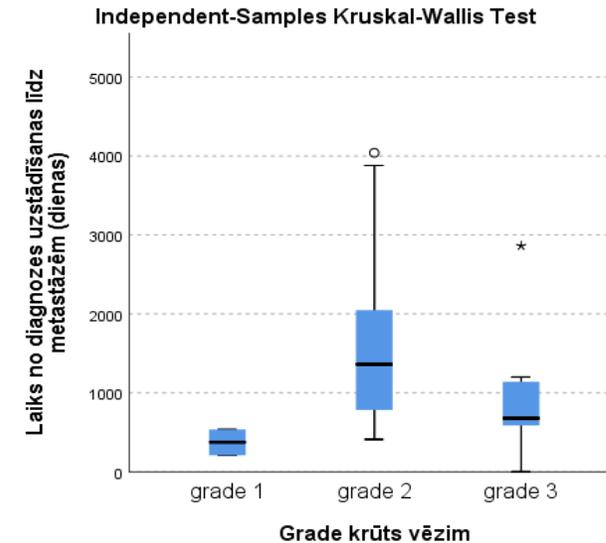
3 patients Stage IB (12%)

3 patients Stage IIA (12%)

Research Results

- Among 25 patients Grade 2 had 14 patients (56.0%), Grade 3–9 patients (36.0%) and Grade 1–2 patients (8.0%)

- The average time when breast cancer was diagnosed until bone metastasis with Grade 2 – 54.38 months, Grade 3 – 30.08 months, but Grade 1 – 12.3 months. Statistically significant differences were found between Grade 1, 2, 3 and the time from diagnosis to metastasis (p = 0.049)

Mean = 2.28
Std. Dev. = .614
N = 25

Conclusion

- The most frequent stage in patients with bone metastasis is Stage IV and Stage IIIB. Both stages describe invasive breast cancer that has spread beyond the breast and nearby lymph nodes

- Grade 2 patients have a longer time from diagnosis to metastasis than those of Grade 1 and Grade 3