Quality of life and pain in patients with metastatic bone disease from solid tumors treated with bone-targeted agents– a real-world cross-sectional study from Switzerland (SAKK 95/16)

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Background

- Bone metastases are common in patients with solid tumors and are frequently associated with skeletal complications, known as skeletal-related events (SREs) and symptomatic skeletal events (SSEs) [1].
- Bone-targeted agents (BTAs) are widely used in clinical practice to delay the onset of SREs and bone pain, and thereby to maintain or delay a decrease in quality of life (QoL) [1,2].
- Knowledge of the impact of the use of BTAs in routine care on patient-reported pain and bone pain-related QoL is limited.

Objectives:

- To describe the real world use of BTAs and their effect on patients bone pain, general and bone-pain-related QoL.
- To compare these outcomes between patients treated to those not treated with a BTA by taking physicians' estimation of risk for bone complications into account.

Methods

- In this real world cross-sectional study [3] oncologists from across Switzerland enrolled patients over a 3-month study period.
- Patients were aged ≥18 years, had solid tumors and at least one bone metastasis, and received routine management at the participating physician's center.
- Physicians provided data on their clinical setting, BTA-related practices, patients' disease status, risk of bone complications and BTA regimen.
- Patients completed questionnaires about pain (BPI), general and bone pain-related quality of life (FACT-G, FACT-BP) and treatment satisfaction (FACT-TS-G).

Statistical considerations:

- Continuous variables include the total scores, subscales and single items of the FACT-G, FACT-BP, FACIT-TS-G and BPI.
- Differences between groups were tested by Wilcoxon–Mann–Whitney tests or Kruskal-Wallis tests.
- A difference of ≥3 points in the FACT-BP and ≥4 in the FACT-G is considered clinically relevant.

Results

- The 18 participating sites recruited 417 patients.
- Based on the FACT-BP, 42% of the patients indicated not having bone pain.
- According to the BPI, 28% reported no, 43% mild, 14% moderate, and 15% severe pain, respectively.
- Patients who were not treated with a BTA had better overall QoL (FACT-G: mean difference = 4; 95% CI: 0.3, 7.7; p=0.031) and bone pain-related QoL (FACT-BP: mean differences = 3; 95% CI: 0.3, 4.0; p=0.007) than those treated with a BTA (Table 1).
- Patients considered at 'low risk of bone complications' not receiving a BTA reported significantly lower 'worst pain' scores (p=0.025) and better bone pain-related QoL scores (p=0.012) than those considered at 'low risk' but receiving a BTA treatment or those considered at 'high risk' regardless of BTA treatment (Figure 1).
- Overall satisfaction with the BTA treatment was good, with almost 50% of patients reporting that they were completely satisfied.

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Results

Table 1. Patient-reported outcomes by BTA treatment and risk status

	Patients treated with BTA therapy			Patients not treated with BTA therapy				High bone complication risk			Low bone complication risk			
	N	Mean	SD	N	Mean	SD	*p* value[3]	N	Mean	SD	N	Mean	SD	*p* value[3]
Pain (BPI)[1]														
Worst pain	296	3.1	2.9	104	2.5	2.7	0.076	229	3.0	2.9	155	2.9	2.7	0.684
Least pain	295	1.2	1.6	104	1.1	1.6	0.815	228	1.1	1.6	155	1.2	1.6	0.364
Average pain	296	2.1	2.1	104	1.9	2.1	0.249	229	2.1	2.1	155	2.0	2.0	0.957
Pain right now	296	1.7	2.2	104	1.4	1.9	0.359	229	1.5	2.1	155	1.7	2.1	0.414
Bone pain (FACT-BP)[2]	301	47.7	12.4	105	50.7	11.0	0.007	230	48.1	12.1	160	48.9	11.9	0.397
Quality of Life (FACT-G)[2]														
Physical wellbeing	302	20.5	5.7	105	21.5	5.4	0.084	231	20.6	5.8	160	20.8	5.6	0.693
Social/family wellbeing	299	21.7	5.0	105	22.6	4.8	0.101	231	21.9	5.0	158	22.0	4.8	0.961
Emotional wellbeing	300	17.4	4.7	105	18.5	4.2	0.060	231	17.7	4.7	158	17.6	4.5	0.698
Functional wellbeing	303	17.8	5.4	105	18.9	5.2	0.078	232	17.7	5.5	160	18.5	5.0	0.205
FACT-G total score	296	77.4	15.5	105	81.4	14.4	0.031	229	78.1	15.4	157	78.8	15.5	0.665

[1]Higher score indicate worse pain; [2]Higher scores indicate less bone pain or better QoL; [3]Univariate Wilcoxon–Mann–Whitney tests

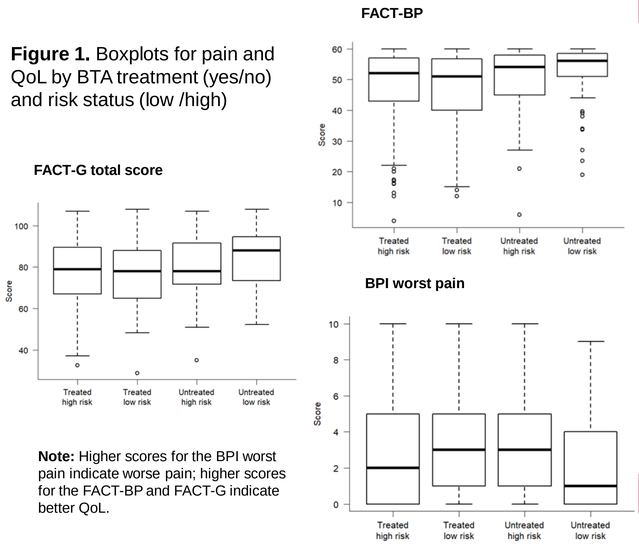

Figure 1. Boxplots for pain and QoL by BTA treatment (yes/no) and risk status (low /high)

Note: Higher scores for the BPI worst pain indicate worse pain; higher scores for the FACT-BP and FACT-G indicate better QoL.

Conclusion

- Patient-reported outcomes support the findings based on the physicians' perspective suggesting high levels of pain control [3].
- Overall, pain and QoL did not significantly differ according to BTA treatment or physicians' risk perception.
- Patients with low risks not receiving BTA treatment reported the least pain and highest QoL scores.
- Differences in QoL between patients with 'high' and 'low' risks for bone complications may be a consequence of varying disease burden.
- Treating physicians seem to assess bone complication risk appropriately and treat patients accordingly, even by deviating from international guidelines.

References

[1] von Moos et al. (2017) Eur J Cancer 71:80-94.
[2] Patrick et al. (2015). Support Care Cancer 23 (4):1157-68.
[3] Mark et al. (2020). J Bone Oncol 21:100273.

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