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OPAL
Breast Cancer Registry Platform

DATA FROM THE GERMAN RESEARCH PLATFORM OPAL

WHAT AFFECTS THE CHOICE OF FIRST-LINE TREATMENT FOR HORMONE-RECEPTOR-POSITIVE, HER2-NEGATIVE ADVANCED BREAST CANCER?

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BACKGROUND

Patients with hormone receptor (HR) positive, HER2-negative advanced breast cancer (ABC) currently have three options for first-line treatment: CDK4/6-inhibitors with endocrine therapy (CDK4/6i), endocrine therapy (ET) or chemotherapy (CT). What affects decision making in routine care?

CONCLUSION

CDK4/6-inhibitors with ET have quickly become standard of care for patients with HR-positive, HER2-negative ABC. For some younger patients with visceral metastases physicians still favor CT, while older, frail patients may still be receiving ET alone as first-line treatment for ABC. Longer follow-up will reveal the impact of these new treatments on clinical and patient-reported outcomes in routine.

METHODS

OPAL (NCT03417115) is a prospective clinical registry that continues the Tumor Registry Breast Cancer (TMK, NCT01351584, Fietz et al., 2017). Patients are prospectively recruited at start of their first systemic treatment for ABC. Follow-up continues until death or up to 5 years. There is no treatment specification. Detailed information on all (sequential) treatments, patient and tumor characteristics, physician-reported factors regarding treatment decision making, biomarker testing, outcomes (e.g. best response, progression-free and overall survival) are collected in a web-based data capture system with implemented checks for completeness and plausibility. Data are monitored by data management and on-site. Patient-reported outcomes (PROs) are collected at start of treatment and every 3 months thereafter. Patients can also give informed consent for their tumor samples to be used in future translational research (virtual biobank).

By June 2020, a total of 5815 patients had been recruited, of whom 1173 since start of OPAL. Here, factors potentially influencing treatment decision were analyzed for 648 patients with HR-positive, HER2-negative ABC, recruited between September 2018 and June 2020.

RESULTS

In 2018 (Sep-Dec, n=90), first-line treatments were 66% CDK4/6i, 16% ET and 19% CT. Use of CDK4/6i increased to 73% in 2019 (n=400) (14% ET, 14% CT) and further increased to 79% in 2020 (Jan-Jun, n=158) (9% ET, 13% CT) (**Figure 1**).

Patients receiving ET (n=82) were older than patients receiving CDK4/6i (n=475) (median 76 vs. 67 years) (**Table 1**). ECOG and Charlson comorbidity index (CCI) were similar. Type of metastasis at start of 1st-line had been documented for 82% (ET) / 76% (CDK4/6i) at the time of analysis. Type of metastasis in patients receiving ET was more often non-visceral only compared to patients receiving CDK4/6i (31% vs 18%). The following physician-reported factors were reported to favor ET vs. CDK4/6i: patient preference (strong/considerable influence: 50% vs 33%), advanced age (40% vs 15%), poor general condition (29% vs 14%), low application frequency (27% vs 14%) (**Figure 2**).

Patients receiving CT (n=91) were younger than patients receiving CDK4/6i (median 62 vs. 67 years) and more often had a CCI 0 (86% vs 80%) and ECOG 0 (41% vs 36%) (**Table 1**). Type of metastasis at start of 1st-line had been documented for 81% (CT) / 76% (CDK4/6i) at the time of analysis. Patients receiving CT had more often visceral metastasis than patients receiving CDK4/6i (70% vs 59%), with 35% liver and 24% lung metastasis (CDK4/6i 20% liver, 16% lung). The following physician-reported factors were reported to favor CT vs. CDK4/6i: rapid remission required (strong/considerable influence: 65% vs 39%), presence of visceral metastasis (54% vs. 25%), while the factor "oral application" was reported in favor of CDK4/6i (18% vs 53%) (**Figure 2**).

Figure 1

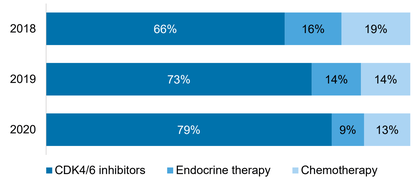

Figure 1 Treatment strategies over time
Start of recruitment in September 2018, database cut June 2020;
2018 (Sep - Dec): n=90; 2019: n=400; 2020 (Jan - Jun): n=158.

Table 1

Characteristic	CDK4/6-Inhibitor		Endocrine therapy		Chemotherapy	
	N	%	N	%	N	%
Number of patients	475	100.0	82	100.0	91	100.0
	Median	25-75% Quartile	Median	25-75% Quartile	Median	25-75% Quartile
Median age at start of first-line	67.3	56.6 - 76.2	75.6	66.2 - 82.7	61.7	51.6 - 75.7
	n	%	n	%	n	%
ECOG Performance Status						
ECOG 0	169	35.6	27	32.9	37	40.7
ECOG ≥1	202	42.6	42	51.3	34	37.4
Unknown	104	21.9	13	15.8	20	22.0
Patients with comorbidities						
At least one relevant comorbidity [a]	361	76	62	75.6	62	68.1
Comorbidity according to CCI [b]						
CCI 0 [b]	380	80.0	62	75.6	78	85.7
CCI ≥1 [b]	93	19.6	19	23.2	13	14.3
Unknown	2	0.4	1	1.2	0	0.0
Metastatic breast cancer						
De novo (M1 at diagnosis)	33	36.3	26	31.7	159	33.5
Recurrent (M0 at diagnosis)	50	54.9	37	45.1	281	59.2
Status at diagnosis unknown/MX [c]	8	8.8	19	23.2	35	7.3
Type of metastasis [d]						
Non-visceral [e]	84	17.7	25	30.5	10	11.0
Visceral	61	12.8	7	8.5	9	9.9
Visceral and non-visceral	218	45.9	35	42.7	55	60.4
Not yet documented	112	23.6	15	18.3	17	18.7
Location of metastasis [d, f]						
Bone	258	54.3	49	59.8	45	49.5
Liver	94	19.8	14	17.1	32	35.2
Lung	76	16.0	6	7.3	22	24.2
No documentation yet	112	23.6	15	18.3	17	18.7

Table 1 Patient and tumor characteristics.

CCI, Charlson Comorbidity Index; ECOG, Eastern Cooperative Oncology Group; Max, Maximum; Min, Minimum, StD, standard deviation.
a At least one comorbidity according to CCI or additional concomitant diseases.
b Charlson Comorbidity Index (CCI) according to Quan (Quan et al., 2011).
c M-Status at diagnosis not known/not evaluated/not documented.
d Metastasis at start of palliative 1st-line therapy (8 weeks before to 4 weeks after start of 1st-line treatment).
e Non-visceral: skin, bone and/or lymph node metastasis.
f Multiple answers possible.

Figure 2

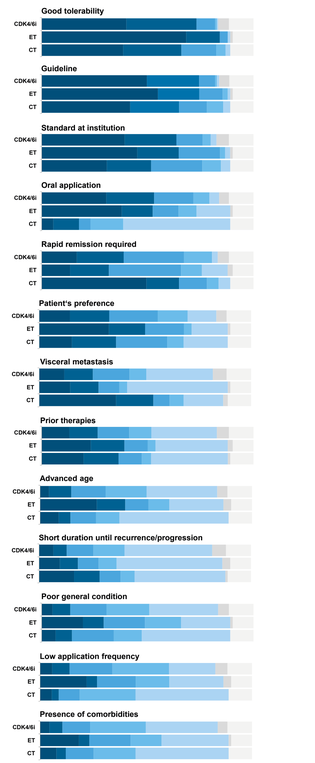

Figure 2 Physician-reported decision factors
CDK4/6i: CDK4/6-inhibitor (with endocrine therapy); ET: endocrine therapy; CT: chemotherapy.
CDK4/6i: n=475, ET: n=82, CT n=91.
Sorted by total frequencies "strong/considerable influence".

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Acknowledgements:
The OPAL Registry group thanks all participating patients, physicians and study teams. The OPAL Study Group collaborates with the Arbeitsgemeinschaft Internistische Onkologie in der deutschen Krebsgesellschaft e.V.

Conflicts of Interest:
A. Welt: Salary: University Hospital Essen, Germany, Consulting Fees (e.g. advisory boards): Roche, Novartis, Pfizer, Tesaro, AstraZeneca, Lilly, Eisai, Amgen, Daiichi Sankyo, Interplan, Contracted Research: Novartis

Funding:
OPAL is designed, managed and analysed by iOMEDICO and receives continuous financial support from Roche Pharma AG and temporary financial support from Eisai GmbH, Lilly Deutschland GmbH, Mundipharma GmbH, Mylan Germany GmbH, Onkovis GmbH and Pfizer Pharma GmbH.

None of the funders had any role in study design, data collection and analysis, interpretation of results, decision to publish, or preparation of this analysis.

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ESMO Congress 2020
19.-21. September
Posternumber: 324P