Poster 533P

Real-World Evidence Safety and Effectiveness Study of Ribociclib plus Hormonal Therapy in HR+/ HER2– advanced breast cancer in the Middle East: Interim Results from the REALEESA Study

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Introduction

- Breast cancer remains the most frequently diagnosed malignancy among women worldwide, accounting for approximately 2.3 million new cases annually, and representing 11.7% of all global cancer diagnoses.
- In the Middle East and South Asian region, the incidence of breast cancer is increasing ranging from 33.7/100,000 in Saudi Arabia to 51.9/100,000 in Turkey.
- Compared with Western countries, women in these regions are diagnosed at a younger age (=35-45% diagnosed <50 years), whereas >50% present with more advanced stages, which negatively impacts outcomes and survival.
- Hormone receptor–positive, HER2-negative (HR+/HER2–) advanced breast cancer (aBC) accounts for 75–80% of aBC cases in the region.
- Ribociclib, a selective CDK4/6 inhibitor, has demonstrated robust efficacy and favorable safety in several pivotal phase III trials.
- In the MONALEESA-2, -3 and -7 trials, the addition of ribociclib to standard endocrine therapy improved:
  - Progression-free survival (PFS): 33.6 vs. 19.2 months (MONALEESA-2), 23.8 vs. 13.0 months in premenopausal women (MONALEESA-7).
  - Overall survival (OS): 58.7 vs. 48.0 months (MONALEESA-7), 53.7 vs. 41.5 months (MONALEESA-3).
- Real-world evidence from Middle Eastern countries is still limited, particularly regarding long-term tolerability, dose adjustments, and treatment duration of ribociclib in routine clinical settings.
- REALEESA is a regional, multicenter, ambispective real-world evidence (RWE) study designçed to evaluate the safety, and effectiveness of ribociclib combined with hormonal therapy in aBC patients across Jordan, UAE, Oman, and Saudi Arabia.

Methodology

Study Design: REALEESA is an ambispective, non-interventional observational study conducted in Jordan, UAE, Oman, and Saudi Arabia.

Consists of two cohorts: retrospective cohort which includes patients who completed ribociclib-based therapy and a prospective cohort which includes patients currently on treatment for ongoing data collection (not covered in this report).

Current Report: Presents the interim analysis of the retrospective cohort only with inclusion criteria of:

- Women aged ≥18 years with HR+/HER2 aBC.
- Completed ≥18 months of ribociclib with hormonal therapy.
- Discontinued overall treatment prior to enrollment.
- Data collected from 2018 to 2024 across KSA, UAE, Oman, and Jordan.

Variables included: demographics, disease characteristics, metastatic sites, prior treatments, ribociclib dosing and duration, adverse events (AEs), and clinical outcomes.

Statistical Analysis: Outcomes were summarized using descriptive statistics. AEs were reported at predefined 6- and from 6-18-month timepoints following treatment initiation.

Ethics: The study protocol was approved by local ethics committees at all participating sites.

Results

A total of 135 patients were enrolled; 132 (97.8%) met eligibility criteria. All were retrospectively included and had discontinued Ribociclib by data cutoff.

Age	49.7 years (range: 29–85)
Gender	100% females
Country Distribution	71.2% Jordan 12.1% UAE 9.1% Oman 7.06% KSA
Stage IV Disease Metastasis	78.8% bone 32.6% lung 22.0% liver
Ecog 0-1	97.7%
PIK3CA mutation status	16/48 (33.3%)
KI-67 status (<20% low, >20% high)	Low 8/21 (38.1%) High 13/21 (61.9%)

Table 1. Baseline demographics and patient characteristics

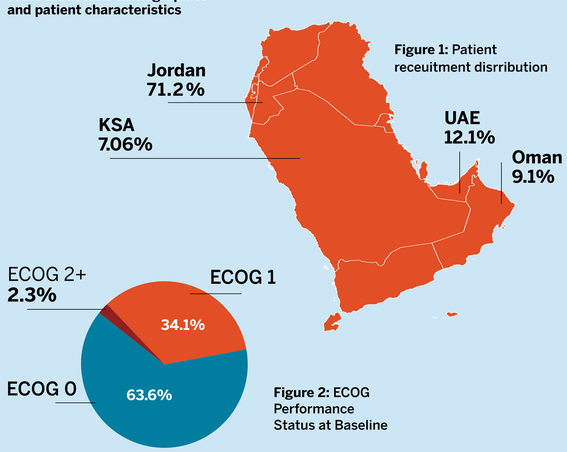


Figure 1: Patient receuitment disrribution

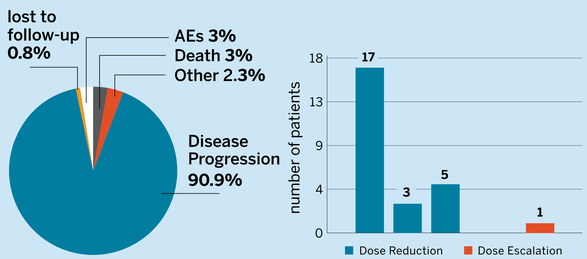
Figure 2: ECOG Performance Status at Baseline

Treatment Exposure and Patterns

All patients (N=132; 100%) received ribociclib in combination with endocrine therapy (ET).

Endocrine Therapy Backbone

- Letrozole was the most commonly used ET, prescribed in 106 (80.3%) of patients.
- Fulvestrant was used in 23 (17.4%), primarily among patients with prior ET exposure.
- Tamoxifen was prescribed off label in 2 (1.5%), typically among premenopausal women.
- All premenopausal patients received ovarian function suppression.
- Most patients (93.2%) initiated Ribociclib at 600 mg/day with a mean treatment duration of 886.7±290.5 days (29 months).
- One patient discontinued treatment before reaching 18 months.
- Treatment Outcomes at 18 months: 34 patients 26.2% had Overall Response Rate (ORR) according to RECIST 1.1, while 6.8% of patients were progression free at 18 months or end of ribocicilib treatment.
- Treatment Discontinuation: Treatment discontinuation was observed in all patients (132) of which 90.9% of patients discontinued ribocicilib due to disease progression, and 9.1% discontinued for other reasons, including adverse events, loss to follow-up or other reason.
- Incidence of dose modifications and drug discontinuation throughout the ribocicilib treatment duration
  - Only 18 AEs (13 at 6 months and 5 at 18 months) led to dose modifications or drug discontinuation
  - 25 dose reduction events occurred (17 at 6 months, 3 at 12 months and 5 at 18 months)
  - 1 dose escalation occurred at end of ribocicilib treatment



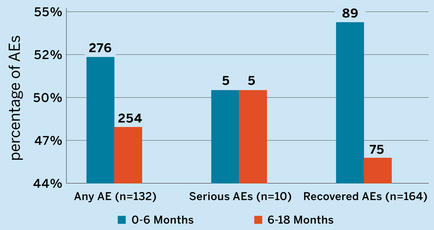
Safety Overview

530 AEs reported from treatment initiation until 18 months (52.1% of them occurred at 6 months vs 47.9% occurred between 6-18 months).

10(1.9%) of total AEs were serious (50% occurred in the first 6 months).

Most AEs were mild or moderate in severity.

Details of reported AEs are outlined in Table 2.



AE	0-6 Months (n=276)	6-18 months (n=254)
Neutropenia	37(13.4%)	28(11.0%)
Infections	14(5.1%)	21(8.3%)
Vomiting	6(5.2%)	5(3.0%)
Arthralgia	13 (4.7%)	10 (3.9%)
Back pain	13 (4.7%)	13 (5.1%)
Bone pain	10 (3.6%)	6 (2.4%)
Cough	10 (3.6%)	4 (1.6%)
Constipation	7(2.5%)	1(0.4%)
Diarrhea	6(2.2%)	3(1.2%)
Fatigue	6(2.2%)	4 (1.6%)
Pain	6(2.2%)	2 (0.8%)
Neuralgia	4 (1.4%)	1 (0.4%)
Rash	4 (1.4%)	6 (2.4%)
Toothache	4 (1.4%)	4 (1.6%)

Table 2. AE outcomes at 6 and the following 12 months

Discussion & Future Directions

- This interim analysis of the retrospective phase of the ambispective REALEESA study provides the first multi-country real-world dataset on ribociclib + endocrine therapy in HR+/ HER2– advanced breast cancer from the Middle East.
- The safety profile observed in this real-word setting shows that the number of AEs reported in the first 6 months was more than the following 12 months (6 to 18 months), with only 1.9% serious AEs. The highest reported AEs in REALEESA (Table 2) were similar to those reported in MONALEESA phase-III trials.
- The median treatment duration of 29 months reflects sustained therapy in routine practice,
- Findings highlight the feasibility of delivering ribociclib-based therapy in the regional oncology setting, where patient populations are typically younger and present at later stages than in Western registries.
- Study completion is in process; the forthcoming prospective phase will provide mature effectiveness outcomes (ORR, PFS, OS) and biomarker analyses (PIK3CA, Ki-67).
- Future work will explore treatment sequencing, adherence, and expand regional data collaboration to strengthen Middle East real-world evidence in breast cancer.
- Selection bias may have influenced the study findings, as patients who discontinued before 18 months or experienced disease progression within that period were excluded from the analysis. This approach may have favored the inclusion of individuals with more stable disease trajectories, and should be considered in final analysis.

Only 1.9% of patients experiencing serious adverse events

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