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Efficacy of Everolimus and Fulvestrant in Resistant Metastatic Breast Cancer: Experience from Uzbekistan

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Background: Everolimus, an mTOR inhibitor, is a key component in the treatment of various malignancies, including breast cancer (BC), renal cell carcinoma, and other oncological diseases. In Uzbekistan, the experience with this drug in oncology remains limited, particularly in the treatment of metastatic breast cancer (MBC). According to NCCN guidelines, everolimus is recommended for use in the second-line and subsequent lines of therapy for hormone receptor-positive (HR+)/HER2-negative recurrent metastatic BC (stage IV, M1), particularly in cases of resistance to CDK4/6 inhibitors.

Methods: A retrospective study conducted from November 2021 to April 2024 evaluated the treatment outcomes of 12 postmenopausal women with HR+/HER2- metastatic BC resistant to CDK4/6 inhibitors. All patients received therapy with everolimus in combination with fulvestrant. The mean age of the patients was 64.3 years (range: 46–72 years). Treatment with everolimus and fulvestrant was administered according to standard protocols, with regular monitoring for side effects and assessment of clinical effectiveness. Patients were closely observed using imaging techniques and laboratory tests.

Results: The median progression-free survival (PFS) was 7.8 months (95% CI: 6.5–8.8), indicating significant disease control in response to everolimus combined with fulvestrant. This outcome highlights the ability of combination therapy to effectively delay disease progression even in patients with resistance to CDK4/6 inhibitors. The median overall survival (OS) was 31.5 months (95% CI: 28.0–35.0), confirming the efficacy of this treatment regimen in patients with metastatic BC resistant to CDK4/6 inhibitors. Additionally, a low incidence of side effects was observed, demonstrating the safety of this approach. The most common mild to moderate side effects included stomatitis in 3 patients (25%), fatigue in 2 patients (20%), and hyperglycemia in 2 patients (16.7%). All adverse events were successfully managed with symptomatic therapy and did not require treatment discontinuation. Only one patient experienced a severe adverse event in the form of pneumonitis, which required temporary therapy interruption and corticosteroid administration. After stabilization, treatment was resumed without further complications. Moreover, 9 patients (75%) reported improved quality of life, as assessed using standardized questionnaires.

Conclusions: The study results demonstrate that everolimus, in combination with fulvestrant, is an effective therapeutic option for patients with HR+/HER2- metastatic BC previously treated with CDK4/6 inhibitors. These findings support the inclusion of everolimus in treatment regimens for metastatic BC in clinical guidelines in Uzbekistan and highlight its potential role in improving clinical outcomes for this patient population.

References used:

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