Results


A risk factor model to assess the likelihood for a patient to experience grade 3/4 hyperglycemia during the first 4 months of alpelisib treatment was developed based on prior data from alpelisib treated patients in Phase I/II trials and these SOLAR-1 studies.

The model was developed based on a randomly selected subgroup of patients (N=151) in clinically relevant subgroups of patients (N=179).

The model included:
- Baseline fasting plasma glucose, body mass index (BMI), glycated haemoglobin, normal count, and age were identified as top baseline factors.
- The frequency of hyperglycemia during treatment with alpelisib.

This model demonstrated a high accuracy for prediction of hyperglycemia in patients in the overall population (AUC=0.78) and an even higher accuracy in patients who received alpelisib + fulvestrant (AUC=0.83).

Despite the high incidence of hyperglycemia (grade 3/4), the vast majority (88.5%) of patients in the high risk group remained on alpelisib treatment.

IFS sauvegrace was maintained regardless of the presence of baseline risk factors (13 months vs 15 months for high risk and 19 months vs 24 months), respectively.

In cases in which both alpha and beta hyperglycemia-secreting agents were able to stop alpelisib treatment.

Furthermore, the duration of alpelisib treatment among all patients was 4.64 months: Figure 3 was longer than the median duration of alpelisib treatment.

Figure 2. Duration of alpelisib treatment in patients receiving SGLT2 inhibitors in addition to other antihyperglycemia agents


Because sodium-glucose cotransporter-2 (SGLT2) inhibitors function in the proximal convoluted tubule of the kidney, we sought to estimate the use of SGLT2 inhibitors in patients with PIK3CA-mutated breast cancer.

In a predictive setting, SGLT2 inhibitors were able to decrease plasma glucose and insulin levels resulting from treatment with the PI3K inhibitor

A post hoc analysis is underway to determine the role of SGLT2 inhibitors in aiding to at least maintain pharma solving molecules associated with the treatment experience in patients with PIK3CA-mutated breast cancer.

All these patients had ≥1 risk factor for developing hyperglycemia (grade 1–4) (e.g., BMI ≥30 kg/m2, age ≥75 years) (+5 years).

In patients with pre-existing diabetes, the risk of developing grade 3/4 hyperglycemia increased 4.5-fold in baseline characteristics.

A post hoc analysis was conducted on 41% of patients who received an SGLT2 inhibitor in addition to other antihyperglycemia agents.

In addition to metformin with/without other antihyperglycemic agents, all these patients had ≥1 risk factor for developing hyperglycemia.

– 10.2% of patients who received SGLT2 inhibitors in addition to metformin and/or other antihyperglycemic agents were able to stay on alpelisib treatment.

– 23.2% of patients who received SGLT2 inhibitors in addition to metformin and/or other antihyperglicemic agents were able to continue alpelisib treatment.

– 46.5% of patients who received SGLT2 inhibitors in addition to metformin and/or other antihyperglycemic agents were able to maintain alpelisib treatment.

– A higher percentage of hyperglycemia not improving or becoming more severe was observed in patients who received alpelisib + fulvestrant.

Figure 3. Time to intervention and severity of hyperglycemia


This analysis evaluated different management approaches in patients experiencing antihyperglycemic side effects of patients, including the time to intervention with antihyperglycemia medication upon onset of the AE.

Early intervention was defined as medication administration within 4 days of onset of grade 3/4 hyperglycemia (n=22), within 2 days for grade 2 (n=10), and within 1 day for grade 3/4 (n=20).

Late intervention was defined as medication administration after 4 weeks of onset of grade 1 hyperglycemia (n=39), after 2 weeks for grade 2 (n=12), after 1 week for grade 3 (n=1), and after 4 days for grade 4 hyperglycemia (n=2).

In patients with grade 1/2 hyperglycemia, delay in intervention resulted in a higher percentage of hyperglycemia not improving or becoming more severe.

– Results should be interpreted with caution due to the limited number and type of patients who were included.