Patterns of hedgehog inhibitor (HHI) treatment interruptions and reinitiations among patients with basal cell carcinoma (BCC) in real-world clinical practice

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Synopsis

- In this U.S., it was estimated that >2 million patients are diagnosed with basal cell carcinoma (BCC) annually.
- Most cases of BCC are treatable by surgery; however, in approximately 15% of patients who develop advanced BCC (including metastatic and locally advanced BCC), additional therapies are required.
- Targeted therapies such as hedgehog inhibitors (HHIs) are preferred and offer patients additional treatment options with clinical benefit in advanced BCC.
- Patterns of HHI discontinuations using different grace periods  
  - Risk of treatment discontinuation at 6 months ranged from 78.8% when requiring a 14-day grace period to 52.5% when requiring a 120-day grace period. NA, not applicable due to small patient numbers.
  - The risk of subsequent HHI reinitiation was 16.9% (95% CI: 0–35.9) with potential neoadjuvant use and 63.3% (95% CI: 52.1–71.9) with potential adjuvant use.

Methods

- We identified new users of HHIs continuously or discontinuously by selecting the first HHI dispensation date (index date) during the study period (January 1, 2013 and March 30, 2019) and requiring all months of continuous follow-up.
- We included patients who initiated HHI use during the index date to 900 days from the index date.
- HHI use was identified using National Drug Codes, and BCC diagnoses were required to have ≥1 diagnosis of BCC during the baseline period (including January 1, 2013 and March 30, 2019) and requiring ≥6 months of continuous follow-up.
- Potential adjuvant therapy in 22.2% of patients and neoadjuvant therapy in 3.8% of patients.
- Most patients (~70%) used HHIs alone versus using HHIs as potential neoadjuvant or adjuvant treatment compared to patients using HHI monotherapy.

Results

- Among patients with HHI treatment discontinuation, the risk of 18-month HHI treatment duration, median (95% CI), to reinitiation, and the risk of treatment discontinuation following reinitiation was 18 months was estimated on Kaplan-Meier analysis and stratified by type of HHI use (i.e., potential adjuvant, neoadjuvant, or both neoadjuvant and adjuvant) using a 60-day grace period.

- The majority (83.8%) initiated HHI therapy with vismodegib.
- Most patients (96.6%) were treated solely with HHI. HHI use was used as an adjunct in 28.0% and neoadjuvant in 20.1% of patients.
- The proportion of patients covered by commercial insurance was 89.3%.

- The majority (54.1%) of patients had HHI use alone.

- The risk of subsequent HHI reinitiation was ≥1 HHI dispensation after treatment interruption.

- There was no information regarding indication of HHI treatment, i.e., whether potential adjuvant or neoadjuvant treatment was used.

Summary and Conclusion

- The majority (68.6%) of patients initiated HHIs, with 78.8% (2013–2014) using HHIs as potential neoadjuvant or adjuvant treatment.
- The majority (52.5%) of patients used HHIs only and underwent HHI treatment discontinuation.
- The probability of HHI reinitiation within 12 months of discontinuation was 52.5% (95% CI: 47.4–57.2). NA, not applicable due to small patient numbers.
- More than 20% (24.2) of patients underwent HHI treatment reinitiation at 12 months, median (95% CI), during the index period.

- Real-world studies of medications with tolerability issues should consider use of HBIs, and on oncology, the data on treatment interruption (i.e., adjuvant neoadjuvant) use is recommended.

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