Methods. This study was conducted from the Brazilian payer perspective according to local guidelines, with a lifetime horizon. The use of SIRT in patients with intermediate- or advanced-stage HCC, without extrahepatic disease and ineligible to transarterial chemoembolization, was compared with sorafenib, the commonly used HCC systemic treatment in Brazil. A sensitivity analysis included the subgroup of patients with low tumour burden and preserved liver function.

A partitioned-survival model was developed, which included a tunnel state for patients downstaged to receive a treatment with a curative intent such as liver surgery, transplantation or ablation. Survival curves, utilities and adverse events incidence were extracted from published sources of pivotal randomized control trials. Effectiveness of health interventions was measured in quality-adjusted-life-years (QALYs) and life-years (LYs). Local costs from Brazil were applied. Future costs and effects were discounted at five percent. A willingness-to-pay threshold of USD 53,936 was used, based on a 2017 review of healthcare technology adoption in Brazil.

Results. LYs and QALYs were higher for SIRT using Y-90 resin microspheres versus sorafenib (0.27 and 0.20 incremental LYs and QALYs, respectively) and costs were slightly higher for SIRT (USD 3,056 incremental costs). The incremental cost-effectiveness ratio (ICER) was USD 14,948 per QALY in the basecase.

One-way and probabilistic sensitivity analyses confirmed the robustness of the analyses. Scenario analyses tested different model assumptions and reinforced the basecase results indicating that SIRT using Y-90 resin microspheres was highly likely to be cost-effective compared with sorafenib. Also, the ICER was lower in the subgroup compared with the overall population.

Conclusions. SIRT using Y-90 resin microspheres represents a cost-effective option compared with sorafenib in Brazil.

PD29 Systematic Review With Meta-analysis Of Pharmacokinetic Parameters Of Tyrosine Kinase Inhibitors Used In Chronic Myeloid Leukemia

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Introduction. Therapeutic drug monitoring (TDM) is a cost-effective tool to increase treatments' efficacy and safety. Analyses of pharmacokinetics proprieties of tyrosine kinase inhibitors (TKI) used for chronic myeloid leukemia (CML) can contribute towards effective TDM, development of tailored treatments and new dosing regimens. We aimed to synthesize the available evidence on pharmacokinetic parameters of imatinib, nilotinib, bosutinib, ponatinib in healthy individuals vs. CML patients.

Methods. Systematic searches were conducted in PubMed, Scopus and Web of Science. We included in vivo studies addressing TKIs' pharmacokinetics, including maximum observed concentration (Cmax), time of maximum observed concentration (Tmax) and half-life (t1/2). Meta-analyses of event rates (mixed-effect models) were performed for the parameters of interest: area under the concentration-time curve from time zero to the last measurable concentration (AUC0-t) and from time zero to infinity (AUC 0-∞). Results were presented as event rates with 95 percent confidence intervals. Heterogeneity was assessed using chi-square and I2 statistical tests and considered significant when $p<0.05$ and high when I2>75 percent (Comprehensive Meta-Analysis v.2 Biostat-Englewood, NJ).

Results. Overall, 50 articles were included for analyses (n=26 imatinib, n=11 nilotinib, n=8 bosutinib, n=5 ponatinib). Most studies were performed in the United States (46.0%), designed as open-label trials (70.0%). Several significant interactions between TKI with enzyme inhibitors (ketoconazole, midazolam, aprepitant, metoprolol, grapefruit juice), proton pump inhibitors (esomeprazole, lanzoprazole, omeprazole), antacids, H2 antagonists (famotidine) and enzyme inducers (St. John's, rifampicin) were found ($p<0.001$). Given the significant increase in AUC and Cmax in patients with hepatic/liver impairments currently using TKI, strict therapeutic monitoring is paramount to maintain safety. The between study heterogeneity was rated as moderate to high (I2=75-90%) due the limited number of trials for some drugs, different study design, and populations.

Conclusions. The co-administration of TKI with hepatic enzyme inducers or inhibitors, proton pump inhibitors, antacids, H2 antagonists, as well as in patients with hepatic/liver failures requires caution and additional monitoring. Further well-designed trials are needed to strengthen this evidence for some TKIs, namely bosutinib and ponatinib.

PD30 Radioactive Seed Localization And Radio-Guided Occult Lesion Localization For Non-Palpable Breast Cancer Surgery: A Meta-Analysis

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Introduction. Non-palpable breast cancers require intraoperative localization to guide the surgical procedure. The radio-guided occult lesion localization (ROLL) and radioactive seed localization (RSL) techniques use radioactive material (technetium-99m labeled macroaggregated albumin and iodine-125 seeds, respectively) implanted at the lesion site. The success of conservative surgery depends on complete tumor excision with negative surgical margins. The objective of this study was to perform a meta-analysis of the surgical effectiveness of the ROLL and RSL techniques with respect to rates of positive surgical margins, reoperation, and recurrence.

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