OBJECTIVE

The main objective was to assess the cost-effectiveness of isavuconazole for the treatment of presumed invasive aspergillosis (IA) in Czech adult patients when, at the point of treatment initiation, a differential diagnosis between IA and mucormycosis has not been achieved. Isavuconazole was compared to the standard of care (SoC, i.e., voriconazole) which is ineffective against mucormycosis.

METHODS

A decision tree model (DTM) was created to assess the cost-effectiveness. The DT model was broken down in branches representing the presence of either IA or mucormycosis. Figure 1 illustrates its structure and Table 1 outlines its settings. The examined patient population was composed of individuals presumed to have IA, with a certain percentage actually having mucormycosis. For IA, tree branches for both treatment strategies replicated the SCIRF7,8 study. The mucormycosis-treatment branch replicated the VITAL study as well as the SECURE study (Table 2, Table 3). In this group, it was assumed that pathogen information did not alter the patient pathway. On the other hand, patients with mucormycosis receiving voriconazole were assumed to be receiving treatment as per the other hand, patients with mucormycosis receiving voriconazole were assumed to be receiving treatment as per

RESULTS

• Isavuconazole compared to voriconazole yields over a lifetime horizon additional 0.30 QALYs (7.80 vs. 7.50) at the additional total cost of €3,011 (€18,373 vs. €15,362) (Table 4).

• The incremental cost-effectiveness ratio (ICER) equals €18,373 per QALY gained.

• In the case of QALYS, the difference between the two comparators was mainly due to the differing effects of the two treatments in patients with mucormycosis.

• The probability of isavuconazole to be cost-effective is 80.4% at the WTP threshold, as shown in Figure 2.

• OVSA and SA confirmed the robustness of the base-case result. The tornado diagram in Figure 3 shows that the most influential changes were in mortality and costs.

CONCLUSIONS

The analysis demonstrates that administration of effective antifungal therapy may prolong life when an invasive fungal disease is suspected. Isavuconazole has broad coverage and may, therefore, be appropriate as well as cost-effective in the case when the final diagnosis is not yet available.

REFERENCES