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Paper Poster Session

Clostridium difficile: drug susceptibility, treatments, outcomes

A cost comparison of treating Clostridium difficile with fidaxomicin or vancomycin from the German third-party payer perspective

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Background:

Cost-effectiveness evidence is required by national health technology decision-makers. At the local level, hospital budget decision makers prefer to focus on the budget impact of treatment choices. The objective was to estimate the budget impact of different CDI treatments from a German third-party payer perspective. Vancomycin and metronidazole are both commonly used as first line therapy in German hospitals, however CDI recurrence can be up to 30% with these treatments. Recurrence following fidaxomicin therapy (14%) is lower than with vancomycin (26%) (1), however due to the acquisition cost, fidaxomicin is frequently reserved as second line CDI treatment.

Material/methods:

The cost of an initial case of CDI and the cost of a recurrent case of CDI in patients treated in a German tertiary care centre was recently reported (2). This budget impact analysis compared the cost of treating 100 patients with fidaxomicin or vancomycin, and the cost of treating recurrences based on data from phase III trials (1,3) and a published German cost of CDI study (2). Heimann reported the additional cost of an initial CDI case as €3,932 and the additional cost of a recurrent case of CDI as €59,367 (2). The model assumes no additional cost with vancomycin, however fidaxomicin would incur an additional cost of €1,474 per patient. The model calculated the cost of an initial CDI case as 100 patients multiplied by the cost of initial CDI treatment (€3,932 x 100) for both arms; the drug costs were added to the fidaxomicin arm (€1,474 x 100). The model calculated the cost of a first recurrence CDI case as 26 vancomycin (patients multiplied by the cost of recurrent CDI treatment (€59,367 x 26). As the fidaxomicin arm had a lower recurrence rate (14%); the cost of recurrence treatment for 14 patients (€59,367) plus drug costs (€1,474) was multiplied by 14. The same methodology was used to estimate the cost of a second recurrence, which is a limitation and tested in the sensitivity analysis. A sensitivity analysis subtracting an estimate of the drug costs of vancomycin and metronidazole within fidaxomicin group was carried out.

Results: Total costs were higher with vancomycin €2,471,045, than fidaxomicin €1,574,897 – despite the higher drug spend with fidaxomicin - due to more recurrences with vancomycin. Cost savings with fidaxomicin were due to lower recurrences with fidaxomicin (17) (14 first recurrences + 3 second recurrences) compared to vancomycin (35) (26 first recurrences + 9 second recurrences), and the high cost of treating recurrent CDI (€59,367) compared to an initial CDI episode (€3,932).

Conclusions: The model reported if 100 patients are treated with fidaxomicin, compared to vancomycin, the outcome would be 18 fewer recurrences and cost savings of €906,300, despite the high acquisition cost of fidaxomicin.