Preoperative screening strategies for bacterial vaginosis prior to elective hysterectomy: a cost comparison study
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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

CRD summary
The objective of the study was to compare preoperative screening strategies for bacterial vaginosis for women who underwent elective hysterectomy. The authors concluded that adding metronidazole to standard surgical site infection prophylaxis before hysterectomy should be considered as it was the less costly option with good infection outcomes. Although the review of the clinical literature was not well specified, the authors’ conclusions appear appropriate for the evidence.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
To compare preoperative screening strategies for bacterial vaginosis (BV) for women who underwent elective hysterectomy.

Interventions
Four strategies were compared: test all patients for bacterial vaginosis, treat if positive (test and treat); treat all patients preoperatively with oral metronidazole (treat all); neither test nor treat patients for bacterial vaginosis (treat none); no surgical site infection prophylaxis or bacterial vaginosis treatment (no prophylaxis).

Location/setting
USA/primary and secondary care.

Methods
Analytical approach:
A decision tree was constructed to model the likely clinical and cost outcomes given different test and treat strategies and patients truly and falsely identified as having or not having a disease. The time horizon (which appeared to be short) and the study perspective were not stated explicitly.

Effectiveness data:
A non-systematic literature review was used by the authors to identify clinical probabilities. A PubMed search was performed for articles published between January 1980 and September 2010 using the search term “hysterectomy” or “hysterectomy, vaginal” and “surgical wound infection” or “postoperative complications”. Key clinical data included test sensitivity and specificity and the relative risk of vaginal cuff given prophylaxis or where bacterial vaginosis was left untreated. Adverse effects associated with oral metronidazole were excluded from the analysis as they were considered too minor. Side effects due to surgical site infection prophylaxis were included.

Monetary benefit and utility valuations:
Not relevant.

Measure of benefit:
The measure of benefit was the cuff infection rate.

Cost data:
Included costs were of treatment strategies and treatment of postoperative cuff infection. Cost data were obtained from Medicare Reimbursement data, a healthcare research agency and wholesale drug costs. The cost of hypersensitivity reaction to surgical site infection prophylaxis was obtained from a French study in Euros and converted to dollars. Costs were reported in 2008 USA dollars.

Analysis of uncertainty:
Uncertainty was addressed through a one-way sensitivity analysis. The analysis was performed on clinical and costs estimates.

Results
In the base case, the least costly and most effective strategy was to treat all women with metronidazole (the dominant strategy). It had a cuff infection rate of 4% and a mean cost of $593. The test and treat strategy had an infection rate of 4.2% and a mean cost of $623. The other two strategies were dominated, being more expensive and less effective. Results were robust in the sensitivity analysis.

Authors’ conclusions
The authors concluded that adding metronidazole to standard surgical site infection prophylaxis before hysterectomy should be considered.

CRD commentary
Interventions:
The strategies were described clearly.

Effectiveness/benefits:
The benefits were taken from a published literature of this disease. No details of the review and inclusion criteria were reported so selection bias could not be excluded. The authors gave a justification for excluding adverse effects associated with oral metronidazole. It should be considered whether or not the rate of vaginal cuff infection adequately captured the health outcomes of the strategies from the patient's point of view.

Costs:
The authors did not report the perspective of the analysis. Treatment costs were included. Other cost data and adjustments made were reported adequately. Apart from the cost of treating hypersensitivity reaction, costs estimates were obtained from sources applicable to the study setting.

Analysis and results:
The authors stated that the study was a cost minimisation analysis, but it was more adequately described as a cost-effectiveness analysis as they compared not only costs but also infection rates. The treat-all strategy was correctly identified as a strategy that dominated all the other strategies. Sensitivity analyses on key parameters explored how robust the results were to alternative parameter values. The authors did not compare their findings with those from other studies.

Concluding remarks:
The review of the clinical literature was not specified well, but the authors’ conclusions appear appropriate for the evidence.

Bibliographic details

PubMedID
21944221

DOI