

Cost Analysis of Implementing Mifepristone and Misoprostol in the Management of Missed Miscarriage

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Background

Misoprostol is the current recommended first-line medical management of miscarriage. A recent RCT, MIFEMISO¹, reported that the use of misoprostol and mifepristone in combination was more effective in the management of missed miscarriage than misoprostol alone, with only 17% of patients requiring secondary surgical management compared with 25% in the misoprostol only group. Mifepristone combined with misoprostol is a comparatively expensive medication to misoprostol alone (\$292.42 compared with \$1.50). The increased cost of this medication has limited its implementation despite recent evidence reporting increased efficacy.

Aims

The purpose of this analysis was to determine whether introducing combination mifepristone and misoprostol for the management of miscarriage is cost effective.

Methods

- Review of the management pathway and associated costs (including pathology, sonography, medical reviews, medications, and surgical fees) for missed miscarriage.
- Analysis of the costs via a decision tree, to find average cost of miscarriage management for each pathway (misoprostol vs. mifepristone & misoprostol), including costs associated with medical management failure and requirement of surgical management (suction curette).

Results

Implementation of combination misoprostol and mifepristone in the management of missed miscarriage would cost on average \$184.60 more per patient compared with misoprostol alone.

References

1. Chu JJ, Devell A, Beeson L, Hardy A, Cheed V, Sun Y et al. Mifepristone and misoprostol versus misoprostol alone in the management of missed miscarriage.

DECISION TREE

Entry decision

- Based on RWH management of missed miscarriage guideline

Medical Management

Costs

- Includes of medical review, ultrasound, medication, phone follow-up day 2 & 7

Misoprostol
\$257.5

Mifepristone and misoprostol
\$548.4

7 day follow-up

- Failure rates (%) based on MIFEMISO trial

Complete
75%
Total cost \$257.5

Incomplete
25%

Complete
83%
Total cost \$548.4

Incomplete
17%

Surgical costs

- Average cost of surgery, including medical review and ultrasound

Surgical Management
\$1330
Total cost \$1587.5

Surgical Management
\$1330
Total cost \$1878.4

Average price difference of mifepristone & misoprostol regime: \$184.6 more per patient

Misoprostol average cost
\$590.0

Mifepristone & misoprostol average cost
\$774.6

Discussion

Due to the only marginal improvement in efficacy, as well as the large price discrepancy between mifepristone and misoprostol, combination treatment is more expensive on average per patient. However, this is not inclusive of societal costs such as increased work absenteeism and childcare requirements associated with misoprostol management alone.