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Title Magnetic Resonance Imaging for Staging Cervical and Endometrial Cancer, November 2001

Agency MSAC, Medical Services Advisory Committee

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Aim

To assess the safety and effectiveness of Magnetic Resonance Imaging (MRI) for staging cervical and endometrial cancer and under what circumstances such services should be supported with public funding.

Conclusions and results

Safety: Effects of magnetic fields during MRI are insufficient to result in irreversible or hazardous biological effects in patients undergoing the procedure, although MRI is contraindicated in some patients. Intravenous contrast agents sometimes administered during MRI are considered safe and generally well tolerated by patients.

Effectiveness: The potential for bias should be borne in mind when interpreting this review as it is based on data from case series.

Cervical cancer:

- The diagnostic accuracy of MRI appears to be relatively high for the detection of parametrial invasion, although there is a lack of data directly comparing MRI with other imaging modalities. In the detection of vaginal invasion, MRI has lower sensitivity, but relatively high specificity.

Endometrial cancer:

- While MRI appears to have improved or comparable diagnostic accuracy over some modalities in the differentiation of extensive early disease, the positive predictive value of MRI does not appear to be high enough to suggest that it should replace current staging practices.
- There was insufficient evidence to compare MRI with computed tomography in detecting extensive endometrial cancer from early disease.

Cost-effectiveness: A modeled cost analysis was conducted based on modest improvements in the diagnostic accuracy of MRI over computed tomography (CT) in staging cervical cancer. Using these estimates, for every 100 patients where MRI was used to assess disease extent, the incremental cost per 100 patients would range from saving A$1300 to costing an extra A$17 000. This improvement in diagnostic accuracy over CT would also result in five fewer false positive results and five fewer false negative results, potentially avoiding inappropriate treatments and their associated costs.

Recommendations

- Public funding should be supported for MRI staging of histologically proven cervical cancer at FIGO stages IB or greater following assessment by examination under anesthesia. At present, the evidence is insufficient to support public funding for MRI in patients with recurrent cervical cancer, but further studies may require this issue to be reviewed in the future.
- Public funding should not be supported for MRI staging of endometrial cancer at this time.

Method

MSAC conducted a systematic review of medical literature between January 1997 (prior to this date MRI technology was considered sufficiently different to currently available technology as to make comparison inappropriate) and August 2001 using biomedical electronic databases, the Internet, and international health technology organization websites. This review sought data on the use of MRI for staging cervical and endometrial cancer.

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