

HTA-Report | Summary

Review on the medical and health economic evidence for an inclusion of colposcopy in primary screening programs for cervical cancer

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Introduction

With 3.2 % of all cancer cases in 2002, cervical carcinoma is the tenth most common cancer in Germany. 6500 women developed cervical carcinoma in 2002 and 1800 died because of cervical cancer.

Since the 1970s, cervical carcinoma is one of the most common cancers in women in Germany. The incidence of cervical cancer decreased in Germany since the 1970s. Starting in the 1980s the incidence remained constant, while the mortality further decreased. The most important reason for the decreasing incidence and mortality was the introduction of population based screening programmes.

To date, screening as well as diagnosis of cervical cancer in Germany has been based on cytology, with subsequent colposcopy and, if necessary, biopsy in the presence of abnormal cytologic results. Cervical cytology has been criticised because of its low sensitivity and consequently high rate of false negative results.

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Objectives

Medical questions

How does colposcopy compare to cytology in terms of sensitivity and specificity, and what may be implications for primary screening for cervical carcinoma in Germany?

Economic questions

Is there health economic evidence that may foster an inclusion of colposcopy into national screening programmes?

Methods

A systematic literature review was performed, including studies that compared colposcopy to cervical cytology in terms of sensitivity and specificity.

Studies that directly compared the sensitivity and specificity of colposcopy and cytology for detecting precancerous lesions in normal-risk populations were included. In addition, a systematic review of the relevant health economic literature was performed to analyse cost-effectiveness issues relevant to the German setting.

Within the scope of the



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Results

We identified 406 medical, 110 economic studies, 23 articles on ethics and 43 HTA reports. Based on title and abstract, 36 medical studies were reviewed in detail. All those, four studies fulfilled the inclusion criteria, of which only two were of high methodologic quality. In all studies, sensitivity of colposcopy was lower than that of cytology. In three studies the specificity of colposcopy was lower than that of cytology, in one study specificity of colposcopy and cytology was similar (Table 1).

Table 1: Overview of the included studies

Author / Year	Population	Sensitivity	Specificity
Al-Alwan 2001	77	Cytology: 88.9 % Colposcopy: 72.7 %	Cytology: 98.4 % Colposcopy: 95.3 %
Belinson et al. 2001	1997	Cytology: 94 % Colposcopy: 81 %	Cytology: 78 % Colposcopy: 77 %
Schneider et al. 2000	4761	Cytology: 20 % Colposcopy: 13.3 %	Cytology: 99.2 % Colposcopy: 99.3 %
Wu et al. 2005	450	Cytology: 77.2 % Colposcopy: 55.6 %	Cytology: 98.6 % Colposcopy: 79.5 %

Discussion

Only few studies have compared the test criteria of colposcopy with those of cytology for the primary screening in cervical cancer. In all studies, sensitivity of colposcopy was even lower than the sensitivity of cytology, which has been criticised because of its low sensitivity.

Ethical / social / legal considerations

No relevant studies could be identified.

Conclusion

Based on present data, an inclusion of colposcopy as a primary tool in cervical cancer screening programmes can not be recommended.