HPV E6/E7 mRNA-transcripts as an early predictor of cervical neoplasia in a multicenter study of a high-risk population

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Objective

Detection of HPV E6 and E7 mRNA has been shown to be of higher prognostic value for the evaluation of precursor lesions of cervical carcinoma than the detection of HPV DNA in a number of pilot studies. In particular, in low-grade lesions HPV DNA testing has poor discriminating power as to the progression of CIN, thus leading to considerable over-treatment with ensuing costs to the health care system. Therefore we tested the value of the presence of HPV E6/E7 mRNA as a marker of cervical dysplasia.

Study design

360 patients and were recruited from cervical dysplasia clinics of 7 clinical centres in Germany

According to the histology / cytology the patients were divided into a control group with normal cytology or histology and a group of patients with a different degree of dysplasia.

Papanicolaou (Pap) smear procedure and transport

PAP smears were generated with a cytobrush and air-dried. For transport of additional smears for molecular examination cells were filled into ThinPrep PreservCyt® Solution (Cytyc® Germany GmbH). Within this solution a postal transport was easily possible and nucleic acids were stable for two weeks.

Molecular Methods

Qualitative HPV E6 / E7 mRNA detection of HPV type 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 68 by Hybrid Capture® II, Diogene® Corp., MA, USA

Results

Histological staging

Number of patients per histological result

Conclusion

-E6 / E7 mRNA detection is more often positive in progressed dysplastic cervical lesions compared to lesions with mild dysplasia. In cervical carcinoma the detection rate was

The detection of E6 / E7 mRNA in CIN 0 and CIN I patients requires prospective studies to elu-