Diagnostic Pathology

Oral presentation

HPV E6/E7 mRNA transcripts as predictors of high-grade epithelial cervix dysplasia

J Möckel*[1], A Clad[2], A-S Endres[3] and V Schneider[4]

Address: [1]Institut für Pathologie, Klinikum Lahr, Germany, [2]Universitäts-Frauenklinik Freiburg, Germany, [3]Institut für Virologie, Charite Universitätsmedizin, Berlin, Germany and [4]Pathologisches Institut Dr. Schneider, Freiburg, Germany

* Corresponding author

from 35te Tagung der Pathologen am Oberrhein/35th Meeting of Pathologists of the Upper Rhine Region (PATOR)
The Institute of Pathology, University Hospital Freiburg, Germany. 1 July 2006

Published: 14 March 2007

Diagnostic Pathology 2007, **2**(Suppl 1):S1 doi:10.1186/1746-1596-2-S1-S1

Aims

Detection of E6 and E7 mRNA transcripts has been shown to be of higher prognostic value for the evaluation of the precursor lesions of cervical carcinoma than the detection of HPV DNA in a number of pilot studies [1-3]. In particular in low grade lesions, HPV DNA testing has poor discriminating power as to the progression of CIN, thus leading to considerable overtreatment with ensuing costs to the health care system. We tested an E6, E7 mRNA detection system in a multicenter study in Germany for its usefulness in clinical practice.

Methods

We recruited 334 high-risk ambulatory patients in five clinics with cervical lesions ranging from low-grade intraepithelial lesions to invasive cervical carcinoma. Colposcopy, conventional cytology, HPV-DNA testing (Hybrid Capture II, Digene Corp.), HPV-mRNA-testing (PreTect HPV-Proofer, NorChips AS, Norway) and histologic sampling (biopsies and conisations) were performed.

Results

There were 140 patients WNL, 64 patients with CIN I/II, 98 patients with CIN III and 32 patients with invasive carcinoma. HPV-DNA testing was positive in 24%, 78%, 92% and 97%, respectively. E6/E7 mRNA positivity rate were 8%, 41%, 64% and 94%.

Conclusion

The mRNA-based test showed a higher prognostic value than DNA-based testing in a high-risk population of several dysplasia clinics in Germany. Thus, gene expression profiling of the viral oncogenes E6 and E7 showed superiority to DNA testing in triaging patients with cervical carcinoma precursors.

References

1. Kraus I, Molden T, Erno LE, Skomedal H, Karlsen F, Hagmar B: **Human papillomavirus oncogenic expression in the dysplastic portio; an investigation of biopsies from 190 cervical cones.** *Br J Cancer* 2004, **90:**1407-1413.
2. Cuschieri KS, Whitley MJ, Cubie HA: **Human papillomavirus type specific DNA and RNA persistence-implications for cervical disease progression and monitoring.** *J Med Virol* 2004, **73:**65-70.
3. Lie AK, Risberg B, Sandstad B, Delabie J, Rimala R, Hagen B, Onsrud M, Thoresen S: **DNA versus RNA based methods for HPV testing in Norway. Evaluation of Hybrid Capture II and PreTect HPV-Proofer, a validation study.** *21st International Papillomavirus Conference: February 20 – 26, 2004; Mexico City* . Abstract