Autofluorescence ductoscopy: a new imaging technique for intraductal breast endoscopy.

BACKGROUND: Conventional diagnostic imaging techniques of the female breast, eg, ultrasound, mammography, breast magnetic resonance imaging, or ductography, can only give indirect information about the inside of breast ducts. Diagnostic ductoscopy is the first approach for direct visualization of intraductal lesions. Autofluorescence ductoscopy is a new, noninvasive imaging technique that better identifies intraductal lesions under direct vision.

MATERIALS AND METHODS: We describe the technical development of autofluorescence ductoscopy and initial experience with early clinical evaluation at Frauenklinik (OB/GYN) of Technical University Munich, Germany, and its potential future application. In contrast to standard white light breast endoscopy, autofluorescence ductoscopy uses a different light spectrum and, after sophisticated data processing, can mark suspicious intraductal lesions in blue-violet colors. Autofluorescence ductoscopy adds new visual information previously not seen in white-light endoscopy. Technical development is completed and clinical evaluation is under way.

RESULTS: In a small series, the autofluorescence ductoscope was used and confirmed the initial expectations. No complication was expected or occurred. At present time, it is being used on an experimental basis for evaluation of its clinical benefits.

CONCLUSION: The clinical evaluation of autofluorescence ductoscopy is a
work in progress at an early stage. This technique is intended to improve visualization and identification of breast duct walls and lesions and possibly allows an instant visual semiquantitative histologic evaluation of nonbenign ductal lesions.