## New technology for early detection of bronchial lesions

A newly developed videoendoscopic system that allows the user to switch between white light and autofluorescence bronchoscopic modes has shown success in the early detection of intraepithelial lesions of the bronchus. In a recent study, combined white light and autofluorescence videoendoscopy showed greater sensitivity in the detection of intraepithelial lesions than white light videoendoscopy alone.

The SAFE 3000 system (Pentax, Tokyo, Japan) was used to evaluate 154 consecutive patients: 83 had known or suspected lung cancer, 46 had abnormal sputum cytology findings, 10 had undergone operations for lung cancer, and 15 were heavy smokers who had evidence of respiratory problems. Abnormal findings were detected at 166 sites. In the detection of cancer plus dysplasia, carcinoma *in situ* plus dysplasia, and dysplasia alone, white light plus autofluorescence had sensitivities of 94%, 90% and 83%, respectively, compared with sensitivities of 78%, 65% and 53% with white light alone ($P<0.01$ for all comparisons). There were no significant differences in positive predictive value or specificity between the two techniques, although there was a significant improvement in negative predictive value with combined autofluorescence and white light ($P=0.012$).

The high sensitivity of white light plus autofluorescence means that cancerous and precancerous lesions can be detected earlier, bringing a higher possibility of cure. Because of interobserver variability in classifying intraepithelial lesions, the authors urge caution in performing early intervention in patients with preneoplastic lesions.

*Pippa Murdie*

**Original article** Ikeda N *et al.* (2006) Early detection of bronchial lesions using newly developed videoendoscopy-based autofluorescence bronchoscopy. *Lung Cancer* **52:** 21–27

## Component interaction affects the immune response to multipeptide vaccines

Immunization with peptides derived from cancer antigens has been shown to be an effective method of generating antitumor T cells. It has been thought that multiepitope vaccines, consisting of a mixture of peptides, might enhance the response to immunization, as the inflammation caused by more-immunogenic peptides would enhance the response to less-immunogenic components.

In two sequential trials, Rosenberg *et al.* assessed the response to two cancer-derived peptides, the highly immunogenic gp100:209–217(210M) and the less immunogenic tyrosinase:368–376(370D), in patients at high risk of melanoma recurrence. In the first trial of 31 patients, the vaccines were given separately at two different injection sites. For the second trial of 33 patients, a mixture of the two peptides was administered. When the peptides were injected separately, assays of antipeptide activity revealed a much stronger response to gp100:209–217(210M) than to tyrosinase:368–376(370D). Surprisingly, however, when the mixture of peptides was given, although an enhanced reaction to tyrosinase:368–376(370D) was observed, the response to gp100:209–217(210M) was greatly diminished.

*In vitro* studies performed by the authors showed that competition between the peptides for binding to MHC molecules might have led to decreased presentation of the gp100:209–217(210M) peptide. Such competition has been previously reported, and could result in the immunodominance of some components of a vaccine mixture over others. The authors caution that interactions between the components of multipeptide vaccines need careful analysis, as the *in vivo* response to individual components can be altered by local inflammation and by competition between peptides.

*Jim Casey*

**Original article** Rosenberg SA *et al.* (2006) Altered $CD8^+$ T-cell responses when immunizing with multiepitope peptide vaccines. *J Immunother* **29:** 224–231

## Standard genetic testing does not detect all breast-cancer-predisposing mutations

*BRCA1* and *BRCA2* mutations are known to predispose an individual to high risks of breast and ovarian cancers. The genetic screening process currently available in the US is unable to detect all inherited *BRCA1* and *BRCA2* mutations. Researchers have investigated the