PostScript

LETTERS TO THE EDITOR

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Expression of human mammaglobin gene in pleural effusions of patients with malignant mesothelioma

Human mammaglobin (hMAM) is a 10 kd protein of unknown function originally identified through a differential screening approach aimed at the isolation of breast cancer related antigens. Accordingly, hMAM overexpression was demonstrated in breast cancers compared with non-malignant breast tissue. Based on these findings, the potential role of hMAM as a breast tumour marker has been extensively investigated.[1] hMAM expression has recently been found in other tissues including lung cancer specimens and lung cancer cell lines.[2] Thus, hMAM expression is no longer considered restricted to the mammary gland and the list of normal and/or malignant tissues in which hMAM is found is likely still to be incomplete.

The aim of this study was to investigate the expression of hMAM transcripts in the pleural effusions of patients with pleural malignant mesothelioma (MM). Between June 2003 and July 2004, 26 patients with pleural effusions eventually diagnosed as MM were referred to our pulmonary unit. Our hospital is located along the seashore in an area with shipyard industries and Navy installations which, at least in part, explains the high incidence of the disease—the highest ever reported.[3] Patients were enrolled in the study after giving informed consent. All patients underwent a diagnostic thoracentesis through a Pleuromed catheter (N G C Medical SpA, Novedrate, CO, Italy) and histological specimens were then obtained by medical thoracoscopy.[4] Diagnosis was established according to standard criteria. Cytological examination of all effusions was performed by haematoxylin-eosin and Papanicolau staining. We have previously developed an ultrasensitive nested RT-PCR protocol for hMAM gene detection that has been described elsewhere,[5] and this was applied to the cells obtained from the pleural effusions.

hMAM transcripts were found in six of the 26 patients (23%). Five patients were of the epithelioid type while one was sarcomatoid. Eleven patients had positive cytology for malignant cells (42%), all of the epithelioid subtype. When hMAM analysis and cytology were compared, four patients were hMAM positive and cytology positive, two were hMAM positive and cytology negative, seven were hMAM negative and cytology positive, and the remaining 13 patients were hMAM negative and cytology negative. The PCR product from one patient was sequenced and confirmed to be hMAM. Figure 1 shows a representative agarose gel of RT-PCR amplified hMAM mRNA from one positive and one negative patient. To the best of our knowledge, this is the first demonstration of hMAM expression in the pleural fluid of patients with MM.

The diagnosis of pleural mesothelioma is challenging. While thoracoscopy usually yields adequate diagnostic material, it is a relatively cumbersome procedure that must be performed by well trained chest physicians. Not all patients with pleural effusions are candidates for thoracoscopy. Based on our observation, thoracoscopy should not be withheld in patients with an hMAM positive pleural effusion of unknown origin on the assumption that such positivity is suggestive of metastatic breast cancer.

The potential diagnostic role of hMAM detection in patients with a pleural effusion is unknown. In MM patients we found no correlation between hMAM positivity and cytology. This observation indicates that these two non-invasive diagnostic tools are non-redundant and have the potential to yield independent information. Further studies with larger samples—which include non-malignant effusions as well as effusions secondary to malignancies of different origin—will be necessary to investigate the potential role of hMAM analysis in the work up of patients with a pleural effusion of unknown origin.

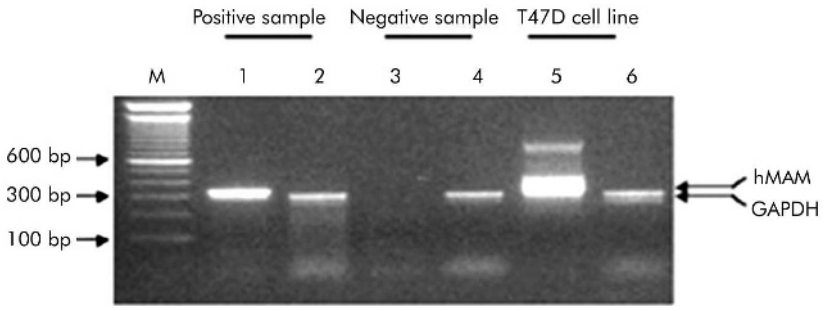

Figure 1 Example of ethidium bromide stained 1.5% agarose gel of RT-PCR amplified hMAM mRNA and GAPDH mRNA. hMAM positive samples (lanes 1 and 2), hMAM negative samples (lanes 3 and 4), and hMAM positive T47D breast cancer cell line (lanes 5 and 6) are shown. Molecular weight markers 100 bp (lane M); primers hMAM (lanes 1, 3, 5); primers GAPDH (lanes 2, 4, 6).

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HIV testing in TB clinics: a problem in practice?

The London Regional Office of the Communicable Disease Surveillance Centre (CDSC) has stated that all patients diagnosed with tuberculosis (TB) should be offered an HIV test.[1] We sought to implement this by introducing a programme within two central London hospitals with high rates of TB, where TB specialist nurses saw all patients early in their treatment course and discussed HIV testing. A standard protocol was used which covered the reasons for offering a test, the ''pros and cons'' of testing, and the actual process involved (including how the results would be given). Staff training and support was supplied by local HIV psychologists. Pretest discussion took an average of 10–15 minutes per patient and was usually performed within the first month of treatment.

Between July 2002 and July 2003 there were 247 new cases of TB. The median age was 43 years and 60% were male. The main ethnic groups were black African (40%), white (22%), and Indian (11%). Eleven (4%) were already