Is increased Slug expression associated with the progression to esophageal cancer?

March 13 2008

Real-time reverse transcription-polymerase chain reaction (RT-PCR), semi-quantitative immunohistochemistry and tissue array reveal that the progression to adenocarcinoma is associated with increased Slug expression and this may represent a mechanism of E-cadherin silencing.

This study, performed by a team led by Dr C Tselepis, is described in a research article published in the February 21, 2008 issue of the *World Journal of Gastroenterology*.

The loss of cell-cell adhesion is a common event in nearly all epithelial malignancies and is associated with increased cellular invasiveness and metastasis. The main mechanism by which cell-cell adhesion is repressed in oesophageal adenocarcinoma is thought to be through the repression of the cell adhesion molecule E-cadherin.

This study reports that a potential mechanism by which E-cadherin could be silenced is through over expression of the protein Slug, a protein which has been shown to directly repress E-cadherin in other epithelial cancers. An understanding of how this protein is over expressed and how to block its expression may provide a platform for therapeutic intervention in the treatment of patients with oesophageal cancer.

Research lead by Dr C Tselepis has investigated the expression of Slug, Snail and Twist in the progression of Barrett¡¯s metaplasia to adenocarcinoma. It has also demonstrated that the protein Slug is over expressed in oesophageal adenocarcinoma and in vitro can repress E-

cadherin expression.

In the view of the author, this novel work opens up a potential area for therapeutic intervention. By understanding how the protein Slug is over expressed it may be possible to block its expression and potentially repress any detrimental downstream effects including the loss of E-cadherin.

Whilst this work clearly describes the expression profile of Slug in the malignant progression and that in vitro it has the potential to repress E-cadherin, whether this occurs in vivo remains undetermined and clearly requires further delineation.

Source: World Journal of Gastroenterology