

THIS WEEK in the JOURNAL

ORIGINAL ARTICLE

Anesthesia Awareness and the Bispectral Index

Anesthesia awareness has potential psychological consequences. Use of the bispectral index (BIS) developed from a processed electroencephalogram has been reported to decrease anesthesia awareness. In this randomized, controlled trial comparing a BIS-based protocol with a protocol based on measurement of end-tidal anesthetic gases, two cases of definite anesthesia awareness occurred in each group. This study did not show a benefit of BIS monitoring in reducing the rate of anesthesia awareness.

SEE P. 1097; EDITORIAL, P. 1189; CME, P. 1207

ORIGINAL ARTICLE

Cetuximab-Induced Anaphylaxis and IgE Specific for Galactose- α -1,3-Galactose

Immediate hypersensitivity reactions to the monoclonal antibody cetuximab, used for the treatment of colorectal cancer and cancer of the head and neck, were found to be associated with IgE antibodies against cetuximab. These antibodies were present in pretreatment serum and were specific for galactose- α -1,3-galactose on the heavy chain of the cetuximab monoclonal antibody.

SEE P. 1109

ORIGINAL ARTICLE

DNA Methylation Markers and Stage I Lung Cancer

Methylation of the promoter region of a gene is a mechanism that influences gene expression. In this study of patients with stage I non-small-cell lung cancer (NSCLC), methylation of seven genes — *p16*, *CDH13*, *APC*, *RASSF1A*, *MGMT*, *ASC*, and *DAPK* — from tumor and lymph-node specimens was studied. Four genes (*p16*, *CDH13*, *RASSF1A*, and *APC*), when methylated, were associated with recurrence after surgery with curative intent.

SEE P. 1118

BRIEF REPORT

VEGF Inhibition and Renal Thrombotic Microangiopathy

In six patients who received bevacizumab, a humanized monoclonal antibody against vascular endothelial growth factor (VEGF), proteinuria subsequently developed, and thrombotic microangiopathy was shown on renal biopsy. In a murine model, the authors showed that using conditional gene targeting to ablate the VEGF gene from

renal podocytes can trigger thrombotic microangiopathy. This finding suggests that glomerular injury from bevacizumab may be due to the direct targeting of VEGF.

SEE P. 1129

SPECIAL ARTICLE

Smoking and Mortality among Adults in India

In this large case-control study in India, the prevalence of smoking was about 5% among women and 37% among men between the ages of 30 and 69 years. Smoking was associated with increased mortality from tuberculosis, respiratory disease, cardiovascular disease, and cancer.

SEE P. 1137

MOLECULAR ORIGINS OF CANCER

Epigenetics in Cancer

Gene transcription can be activated or inhibited by a reversible modification of the gene; this modification is termed an epigenetic change. This account of epigenetics in cancer reviews the mechanisms and consequences of epigenetic changes in cancer cells and concludes with the implications of these changes for the diagnosis, prognosis, and treatment of cancer.

SEE P. 1148

DRUG THERAPY

EGFR Antagonists in Cancer Treatment

Functional activation of growth factors and receptors of the epidermal growth factor receptor (EGFR) family occurs in most epithelial-cell cancers, rendering EGFR a target for cancer treatment. This article discusses the mechanisms of action of EGFR inhibitors, their anticancer activity, and clinical issues concerning their use in the treatment of patients with cancer.

SEE P. 1160; CME, P. 1205

CASE RECORDS OF THE MASSACHUSETTS GENERAL HOSPITAL

A 33-Year-Old Man with Fever, Abdominal Pain, and Pancytopenia after Renal Transplantation

A 33-year-old man was admitted to the hospital with fever, abdominal pain, and pancytopenia 15 years after renal transplantation. Imaging studies disclosed hepatosplenomegaly. A diagnostic procedure was performed.

SEE P. 1176; CME, P. 1206

CLINICAL IMPLICATIONS OF BASIC RESEARCH

Islet Transplantation and Immunosuppression

Experiments using a mouse model of type 1 diabetes indicate that immunosuppressants used in islet transplantation may suppress beta-cell proliferation.

SEE P. 1192