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Next Week in the Journal

AUGUST 12, 2004

The Future of Primary Care

Michael Whitcomb,
Jordan Cohen,
and Ruth-Marie Fincher

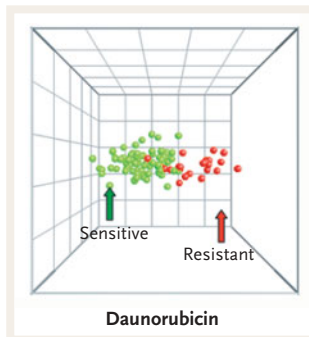


This Week in the Journal

AUGUST 5, 2004

ORIGINAL ARTICLE

Gene-Expression Patterns in Drug-Resistant Acute Lymphoblastic Leukemia Cells and Response to Treatment



In a study of leukemia cells that were resistant or sensitive to prednisolone, vincristine, asparaginase, or daunorubicin — four drugs used in the treatment of childhood acute lymphoblastic leukemia — 124 genes were linked to resistance or sensitivity. The pattern of expression of resistance genes was independently related to the outcome of treatment.

This work adds a new dimension to the formulation of a prognosis in childhood leukemia and promises to stimulate a broad attack on resistance to chemotherapy.

SEE P. 533; EDITORIAL, P. 601; CME, P. 623

ORIGINAL ARTICLE

Rates of Hyperkalemia after the Publication of RALES

The Randomized Aldactone Evaluation Study (RALES) showed that spironolactone reduces mortality in patients with severe heart failure; however, the drug can cause hyperkalemia, especially when given with angiotensin-converting-enzyme (ACE) inhibitors. The current study found that, after the publication of RALES, there was an abrupt increase in the rate of prescriptions for spironolactone and in hyperkalemia-associated morbidity and mortality in patients with heart failure who were receiving an ACE inhibitor.

During spironolactone therapy, it is important to monitor serum potassium levels and renal function.

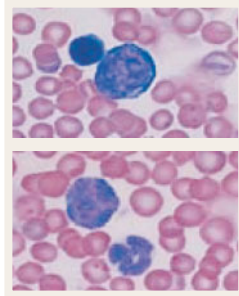
SEE P. 543; PERSPECTIVE, P. 526

ORIGINAL ARTICLE

Loss of Smad3 in Acute T-Cell Lymphoblastic Leukemia

Smad3 is a signaling molecule that has a key role in the cascade evoked by the binding of transforming growth factor β , a tumor suppressor, to its receptor on the cell surface. The principal result reported in this study is a lack of Smad3 in malignant cells from children with T-cell acute lymphoblastic leukemia. This novel finding places Smad3 on the list of tumor-suppressing molecules and provides a fresh look at the mechanisms behind childhood leukemia.

SEE P. 552; PERSPECTIVE, P. 528



ORIGINAL ARTICLE

C/EBP α and the Glucocorticoid Receptor in Asthma

Normally, the growth of airway smooth-muscle cells is kept in check by the antiproliferative effects of glucocorticoids acting in concert with the glucocorticoid receptor and CCAAT/enhancer binding protein α (C/EBP α). These investigators show that airway smooth muscle from patients with asthma has a selective deficiency of C/EBP α , thus obviating the antiproliferative effects of glucocorticoids.

These data suggest that the airway smooth muscle in patients with asthma is intrinsically different from that of healthy subjects and those with emphysema. This work changes the focus of asthma pathobiology from airway immunology to smooth-muscle biology.

SEE P. 560; PERSPECTIVE, P. 531

SPECIAL ARTICLE

Characteristics of Primary Care Doctors Who Treat Blacks and Whites

In this study of Medicare patients and primary care doctors, 22 percent of physicians accounted for 80 percent of visits with black patients. Doctors who treated black patients were less likely to be board certified than those who treated white patients (77 percent vs. 86 percent, $P=0.02$) and more likely to report an inability to provide high-quality care to all their patients (28 percent vs. 19 percent, $P=0.005$). Inferior qualifications and less access to resources among physicians who care for black patients may contribute to racial disparities in the quality of health care.

SEE P. 575; EDITORIAL, P. 603

CURRENT CONCEPTS

Hyperkalemia and Inhibitors of the Renin–Angiotensin–Aldosterone System

Hyperkalemia can develop as a result of treatment with angiotensin-converting-enzyme inhibitors or angiotensin-receptor blockers. This side effect is most common in patients with risk factors such as diabetes mellitus, heart failure, chronic kidney disease, or advanced age. This review explains the pathophysiology and offers clinical guidance for management.

SEE P. 585; CME, P. 622

CLINICAL IMPLICATIONS OF BASIC RESEARCH

Curcumin and Cystic Fibrosis

The most common cystic fibrosis mutation prevents the mutant protein (which forms a chloride channel) from reaching its usual destination: the cell surface. A recent study suggests that curcumin, a nutraceutical, may correct the effect of the mutation.

SEE P. 606

CLINICAL PROBLEM-SOLVING

A Bitter Tale

A 53-year-old woman presented to an outpatient urgent care clinic with persistent nausea and vomiting. On the previous evening, she had an acute onset of nausea that was followed by vomiting and light-headedness. The patient also reported mild discomfort in the chest and abdomen.

SEE P. 594; CME, P. 621

