Gene Responsible For Lou Gehrig's Disease Identified. ***Proc. Natl. Acad. Sci.,*** **90(1):178-82, 1/1/93.**

A Duke University neuroscience research team, led by James McNamara, has identified a gene that when damaged may cause the inherited form of amyotrophic lateral sclerosis (ALS), or Lou Gehrig's disease, a devastating, neurodegenerative disorder with no effective treatment.

The researchers suggest that mutations in the gene lead to the production of faulty receptors, which permit too much calcium to enter the cell when triggered by glutamate. If confirmed by further studies, the findings could lead to a treatment for ALS by providing a target for drug therapy.

Cerebral Anatomy, Depression, & MRI. ***Arch Gen Psychiatry,*** **50(1):7-16, 1/93.**

There is a limited number of on-going brain anatomic imaging studies involving patients with psychiatric illnesses. Primarily, due to the fact that the imaging results have been inconsistent.

C. Edward Coffey, *et al.* addressed the shortcomings of previous imaging studies in 48 patients with severe depression who were referred for electroconvulsive therapy and in 76 normal control subjects. The magnetic resonance imaging (MRI) measures included determinations of regional cerebral volumes and ratings of the frequency and severity of cortical atrophy, lateral ventricular enlargement, and subcortical hypertensity.

The results of this study revealed patients with severe depression were found to have smaller frontal lobe volumes and a greater prevalence of subcortical hyperintensity on MRI than normal control subjects.

Applications Of Magnetic Beads In Bioassays. ***Biotechnology,*** **11(1):6063, Jan/93.**

This study discusses the possibility of magnetic separation techniques and the application of magnetic beads in bioassays.

Magnetic beads have proven to be valuable in cell separations in the removal of tumor cells from bone marrow and isolation of lymphoid cells from peripheral blood, and for the identification and genetic analysis of specific DNA or RNA sequences and for the isolation of DNA binding proteins. In addition, some of these techniques have proven to be useful in the detection of specific nucleic acids from viruses and bacteria.

Two Preliminary Studies Investigate A Dormant Gene And Anemia. ***NEJM,*** **328(2):73-80, (Rodgers) & 81-86 (Perrine) 1/14/93.**

People with sickle cell anemia and beta-thalassemia have genetic defects in their adult hemoglobin gene. In sickle cell anemia, the faulty gene makes a sticky protein that causes red blood cells to warp. Whereas in beta-thalassemia, the same gene may not function at all.

Griffin Rodgers of the National Institute of Diabetes and Digestive and Kidney Diseases in Bethesda, MD, and colleagues report that a combination of the anticancer drug hydroxyurea and the red blood cell growth factor erythropoietin increased the fetal hemoglobin concentrations in four patients with either sickle cell anemia or beta-thalassemia.

Susan Perrine of Children's Hospital in Oakland, CA gave three sickle cell anemia patients and three beta-thalassemia patients daily infusions of a flavor enhancing food additive, butyrate, in solution, for either two or three weeks. Perrine reports that the treatment boosted the patient's production of fetal hemoglobin by up to 45 percent, with few side effects.

Association Between Smoking And Major Depression. ***Arch Gen Psychiatry,*** **50(1): 36-43, 1/93.**

In recent epidemiological studies by Glassman, 1990 and Breslau, 1991, smokers had a substantially higher lifetime prevalence rate for major depression (MD) than did nonsmokers.

Kenneth Kendler and colleagues investigated the association between smoking and depression by examining results from the Virginia Twin Registry of 1566 female twins.

The results suggest that the association between smoking and MD in women is not a causal one but instead is genetically influenced.

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