ACQUIRED IMMUNODEFICIENCY-LIKE SYNDROME IN TWO HAEMOPHILIACS

MARGARET V. RAGN  JESSICA H. LEWIS
JOEL A. SPERO  FRANKLIN A. BONTEMPO

Department of Medicine, Division of Hematology-Oncology, University of Pittsburgh School of Medicine, and the Hemophilia Center of Western Pennsylvania, Central Blood Bank of Pittsburgh, Pennsylvania, U.S.A.

Summary
The immunological status of two multiply transfused patients with severe haemophilia A and diffuse lymphadenopathy was evaluated. But patients appeared clinically well and denied homosexuality or intravenous drug abuse. Immunological studies revealed depressed cellular immune function with anergy, relative lymphopenia, decreased T helper cells, and increased T suppressor cells in both patients and an altered T-helper-cell/T-suppressor-cell ratio in one. Hypersensitivity of the humoral immune system was demonstrated by elevated IgG and IgM. Lymph-node biopsy revealed benign nonspecific hyperplasia in both patients. The lymphadenopathy immunological features in these two haemophiliacs bear striking resemblance to the acquired immunodeficiency syndrome (AIDS) of homosexuals, intravenous drug abusers, and Haitian immigrants. These findings may represent a prodromal phase or a forme fruste of AIDS. Transmission of an infectious agent in blood products seems likely.

Introduction
ACQUIRED dysfunction of the cellular immune system has been recognized in homosexuals,1 intravenous drug abusers,2 Haitian refugees,3 and haemophiliacs.4 This syndrome, characterized by lymphopenia, defective T-lymphocyte function, and a reversal of the T-helper-cell/T-suppressor-cell ratio, has been associated with an increased risk of opportunistic infections and malignant neoplasms in otherwise healthy people. The causative agent(s) of this acquired immunodeficiency syndrome (AIDS) have not yet been identified. We now report a strikingly similar disorder in two symptom-free haemophiliacs with diffuse lymphadenopathy.

Methods
Two patients with severe haemophilia A and diffuse lymphadenopathy were evaluated in September, 1982, at the Hemophilia Center of Western Pennsylvania and Presbyterian University Hospitals. Complete and differential blood counts were obtained on both patients. Serum immunoglobulins were measured with nephelometry,5 and serum proteins and immune complexes were measured with agarose-gel electrophoresis.6,7 T cells, including T helper cells and T suppressor cells, were measured with flow cytometry and monoclonal antibody (Becton Dickinson).8 Lymphocyte responsiveness to phytohemagglutinin was determined by incubation of Ficoll-Hypaque-separated lymphocytes with phytohemagglutinin and thymidine.9,10 Specimens for isolation of cytomegalovirus (CMV) were cultured on foreskin fibroblasts. Lymph-node biopsy specimens were examined by the department of pathology.

Case reports
Patient 1
This 32-year-old White man with severe haemophilia A has a factor-VIII level of 0-01 U/ml and is on home treatment with factor-VIII concentrate. In 1980-81 he used 5600 units of factor-VIII concentrate from a single lot. He was noted to have lymphadenopathy at his 6-month evaluation April 8, 1982. The nodes had been present for several months, but he felt well. He denied malarial or systemic symptoms (weight loss, night sweats, fever, pruritus). Although he carries anti-HBs and anti-HBe, he has had no clinical hepatitis. He denied a history of intravenous drug abuse, foreign travel, or homosexuality. Specifically, there was no known bisexuality, promiscuity, or contact with known AIDS cases. He is employed as a welder. Physical examination showed bilateral nontender adenopathy in the cervical, posterior auricular, occipital, supravacular, axillary, and inguinal areas and no hepatosplenomegaly. A 'Monospot' test was negative, and IgG-CMV titres were 1:16 (seronegative) on April 13, 1982, and May 11, 1982.

A right axillary lymph-node biopsy, carried out on Sept. 3, 1982, under cover of factor-VIII concentrate, revealed benign nonspecific hyperplasia. Acetobacter, anaerobic, and CMV cultures of the node, as well as aspirates stained for Mycobacterium, both typical and atypical, were negative. Urine, buffy-coat, and throat cultures were negative for CMV, and he was negative to the following skin-test antigens: Candida, histoplasmosis, mumps, and PPD. A baseline chest X-ray was unremarkable. The results of immunological studies are shown in the accompanying table. When evaluated on Oct. 5, 1982, he had lost 5 lb in weight but remained well.

Patient 2
This 10-year-old White man with severe haemophilia A has a factor-VIII level of 0-01 U/ml and is on home treatment with factor-VIII concentrate. In 1978-79, the year before development of adenopathy, he used 33 308 units of factor-VIII concentrate from

<table>
<thead>
<tr>
<th>IMMUNOLOGICAL DATA</th>
<th>Test</th>
<th>Normal range</th>
<th>Patient 1</th>
<th>Patient 2</th>
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<tbody>
<tr>
<td>C3 (mg/dl)</td>
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<td>1.0-1.8</td>
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<td>IgG (mg/dl)</td>
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<td>IgA (mg/dl)</td>
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<td>IgM (mg/dl)</td>
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<td>Serum protein electrophoresis: Total protein (g/dl)</td>
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<td>Albumin (g/dl)</td>
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<td>Alpha-2 (g/dl)</td>
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<td>Beta (g/dl)</td>
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<td>Anlogous pneumonia (g/ml)</td>
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<tr>
<td>CMV (g/ml)</td>
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</table>

FHA-phytohemagglutinin.
Preliminary Communication

INCREASED SEROTONIN-2 BINDING SITES IN FRONTAL CORTEX OF SUICIDE VICTIMS

MICHAEL STANLEY

Departments of Psychiatry and Pharmacology, Wayne State University School of Medicine, Detroit, Michigan 48207

J. JOHN MANN

Department of Psychiatry, Cornell University Medical College, New York, U.S.A.

Summary

Differences in serotonin-2 (5-HT2) receptor properties were studied in frontal cortex from suicide victims and controls. The number of 5-HT2 receptors was significantly higher (64%) in the suicide groups. The postsynaptic receptor changes were consistent with previous findings of a reduced number of presynaptic serotonin receptors in the same post-mortem series. The combined findings of both studies support the decreased use of serotonin in suicide victims and may also throw light on the mechanism of action of antidepressant drugs.

INTRODUCTION

Altered functioning of the serotonergic system is implicated in depression and suicide. Post-mortem studies of suicide victims and depressed patients have revealed below-normal levels of serotonin (5-hydroxytryptamine (5-HT)) and its principal metabolite 5-hydroxyindoleacetic acid (5-HIAA) in various brain regions. In vivo studies of 5-HT2 binding sites in human post-mortem frontal cortex were therefore undertaken in a series of suicide victims, and controls.

MARGARET V. RAGNI AND OTHERS

REFERENCES


