

care and caution in these patients. The now known untoward effects should be anticipated or death may ensue.

Any scheme for management should include (1) prolonged gastric aspiration and lavage, as the drug is excreted into the stomach via the gastric secretions; (2) availability of immediate assisted ventilation; (3) immediate cardiac monitoring and availability of emergency equipment; (4) the intravenous use of potassium chloride and lidocaine as indicated; (5) control of seizures with paraldehyde or diazepam; and (6) keen awareness of the possible sudden deterioration of the patient.

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2. Penny R: Imipramine hydrochloride poisoning in childhood. *Amer J Dis Child* 116:181-186, 1968.

The Gaisböck Syndrome

To the Editor.—The "Gaisböck Syndrome," although considered by some as a "nonentity," has the specific hematologic findings of an apparent polycythemia, a normal circulating red blood cell (RBC) mass, and a decreased plasma volume. The name "stress polycythemia" was given on the basis of clinical manifestations and evidence of reactions to psychic stress in many of these patients. Its incidence has been reported to be higher in psychiatric patients than in normal controls, and a clear temporal relationship between clinical manifestations of anxiety and stress and measured blood volume changes were documented in a case report. However, no physiologic or pathologic basis has been found.

In our study, which was designed to elicit the pathophysiology of this entity, two typical cases were studied. Both of the patients had hematocrit readings ranging from 54% to 61% for at least one year and blood volume studies via the double tagging technique showed a normal RBC mass and a decreased plasma volume. The rest of the results of their blood studies (hematologic and chemistry) were completely normal on at least three occasions. Psychiatric evaluation by a diagnostic interview, Minnesota Multiphasic Personality Inventory (MMPI), Zung Depression scale, and Taylor Manifest Anxiety scale were carried out and compared to a similar evaluation carried out 12 months prior to this study. The different physiological factors that may

have been responsible for the blood volume alteration in our two patients, namely, increase in plasma histamine, steroids, or epinephrine, or a decrease in antidiuretic hormone production, were studied. Plasma histamine, diurnal plasma cortisol, 24-hour urinary 17-hydroxycorticosteroids, 24-hour urinary metanephrines and normetanephrines, as well as a 24-hour water deprivation test, followed by a Pitressin test were all within normal limits. The sleep record of both patients for five consecutive nights showed significant decrease in both mean rapid eye movement (REM) time and percentage in all five nights, though more so during the first two nights. A 12-hour (day-night) intake-output schedule showed a statistically higher daytime intake volume in both patients. Although there was no significant difference between daytime and nighttime urine output volume with the first patient, urine output volume was significantly higher during the night with the second patient. Nocturnal urine in patient 1 had essentially the same osmolality and specific gravity as that of daytime urine. In patient 2 both specific gravity and osmolality of nocturnal urine were significantly lower than those of daytime urine.

The psychiatric and psychometric findings in both patients were essentially similar to those observed 12 months prior to this study. Both patients exhibited symptoms and psychometric criteria indicative of their reacting to stress. Although their personalities were quite different, they did share traits of passivity, obsessionism, and tendency to somatization. The findings of decreased nocturnal water conservation and urine concentration are consistent with a decrease in nocturnal antidiuretic hormone (ADH)-like activity despite a grossly normal ADH. Rapid eye movement sleep mean time and percentage was found to be decreased in both patients, though more so in the first two nights due to "first night effect." Despite an expected REM rebound in the latter three nights, there was still significant decrease in REM time and percentage in these nights. Rapid eye movement sleep has been noted to decrease with psychic stress, though inconsistently so due to the "REM rebound" phenomenon. Increase in ADH-like activity has also been noted during REM sleep. Although patients who are chronically deprived of REM sleep have not been reported to develop this syndrome, our findings indicate that the stress relationship to

the blood volume change might be mediated via a primary decrease in REM sleep secondary to stress with subsequent decrease in nocturnal primary ADH-like activity and eventual nocturnal water loss. It seems that the rather mild blood volume change and essentially no plasma osmolality change seen in these patients fail to trigger the ADH feedback mechanism and a chronic mild and nonprogressive (due to REM-rebound) polycythemia persists in these predisposed patients.

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Infectious Mononucleosis In Athletes

To the Editor.—Any discussion of the etiology of infectious mononucleosis (219:897, 1972) must give some consideration to its almost epidemic occurrence in athletes who have been trained excessively, and where particular coaches are known for their strenuous training programs.

This does suggest that infectious mononucleosis is related to stress and may indeed be another autoimmune disease. While mononucleosis is not supposed to recur, frank recurrences are fairly frequent and many patients report symptoms similar to the original attack while under stress conditions. The signs and symptoms of "staleness" in an athlete, fatigue, rash, swollen glands, joint pains, poor attention span, sleep disturbances and loss of appetite, parallel remarkably those of mononucleosis.

In my experience, many distance runners clearly relate overtraining to development of either respiratory or mononucleosis-like symptoms.

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Psychosis, Psychiatry, And Homicide

To the Editor.—The report "Homicide during a psychosis induced by LSD" (219:869, 1972) presents the "case history" of a 22-year-old graduate student who, while in Israel and while allegedly under the influence of LSD, killed one person and injured two others. A year before, after assaulting an elderly woman, "The police caught him and took him to a mental hospital where he recovered rapidly and was released in a few days." After the murder, "His parents had brought