

Diabetes Insipidus and Anterior Pituitary Dysfunction after Staphylococcal Meningitis and Multiple Brain Abscesses

Syndrome and diagnosis. A previously healthy 42-year-old alcoholic man was hospitalized because of acute meningitis. The cerebrospinal fluid contained 3,300 white blood cells/mm³, 500 mg of protein/100 ml, and 10 mg of glucose/100 ml and was culture-positive for *Staphylococcus aureus*. Pneumonia of the left lower lobe and a pleural effusion were present. The pleural fluid and several blood cultures yielded no bacterial growth. Computerized tomography of the brain disclosed abscesses in the left parietal and occipital lobes and focal cerebritis of the right parietal lobe. Penicillin and chloramphenicol were given for two days; cloxacillin was later substituted for penicillin and chloramphenicol was discontinued. After 40 days, cloxacillin was discontinued and computerized tomography of the brain and roentgenograms of the chest and sella turcica were normal.

Unique features. Polyuria (4,000–8,000 ml of urine per day) began 10 days after admission. Plasma and urine osmolality were 312 and 150 mosmol/kg of water, respectively, after a dehydration test [1]. After aqueous vasopressin (5 units) was given sc, urine osmolality reached 684 mosmol/kg of water. Results of thyroid and adrenocortical function tests were normal; the plasma testosterone level was markedly reduced. Certain pituitary hormone levels (luteinizing hormone, follicle-stimulating hormone, and human growth hormone) did not respond to 150 µg of luteinizing hormone-releasing factor and hypoglycemia produced by 0.15 units of insulin/kg of body weight. Diuresis and urinary osmolality became normal after vasopressin tannate in oil (5 units) was given once a day im. Vasopressin tannate was grad-

ually discontinued, and results of the dehydration test [1] were normal one month later. The other endocrinologic abnormalities persisted with no change. We believe that this is the first reported case of diabetes insipidus and multiple-site pituitary dysfunction after meningitis due to *S. aureus* or after extrasellar brain abscesses.

Conclusion. Transient or definitive diabetes insipidus with or without anterior pituitary dysfunction is a well-known complication of tuberculous meningitis [2] and has been reported after meningitis due to group B streptococci (in three patients), *Haemophilus influenzae* (one patient), and *Listeria monocytogenes* (one patient) [2]. Diffuse infection of the hypothalamus-hypophysis region was suspected [2]; however, a small isolated abscess in the sella turcica has been associated with multiple-site pituitary dysfunction [3] and could not be completely excluded in our patient. The prevalence of dysfunction of the hypophysis in pyogenic infections of the central nervous system will not be known until an active effort is made to detect dysfunction in these patients.

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