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[Two of the authors respond:]

In our review, we considered the laboratory evaluation of hyponatremic patients.¹ In hospital patients with hyponatremia, the syndrome of inappropriate secretion of antidiuretic hormone (SIADH) is commonly implicated, yet it is a diagnosis of exclusion.²

SIADH was first described by Schwartz and colleagues in 2 patients with bronchogenic lung carcinoma as early as 1957.³ The main features of the syndrome consist of hyponatremia and hypotonicity (< 280 mOsm/kg), absence of fluid volume depletion, inappropriate urinary osmolality (> 100 mOsm/kg), increased urinary sodium excretion (> 40 mmol/L) while on normal salt and water intake, and absence of thyroid, adrenal, pituitary or renal dysfunction.^{1,2} The assay of serum arginine vasopressin is not mandatory for the diagnosis of this condition.^{2,4} An abnormal water load test, inappropriately raised ADH levels relative to plasma osmolality and improvement of serum sodium concentration after fluid restriction are classified as supplemental diagnostic criteria.²

As to its pathophysiology, SIADH results from 3 factors:²⁻⁴

1. Inappropriate stimulation from pulmonary pathology (bacterial pneumonia, tuberculosis, lung abscess or asthma) or drugs (cytotoxics, morphine, barbiturates, nicotine or hypoglycemic agents).
2. Uncontrolled secretion from virtually any central nervous system (CNS) disorder (infections, trauma, vascular disease or neoplasms) or after stress, such as trauma or surgery.
3. Ectopic ADH elaboration by tumours, particularly small cell (oat cell) lung carcinoma (SCLC), duodenum and pancreatic cancers, olfactory neuroblastoma and lymphomas.

Indeed, these tissues have been described as increasing ADH secretion in response to osmotic stimulation *in vitro*.⁵

SIADH is the principal cause of hyponatremia in malignant disease. Early recognition and prompt treatment can prevent serious neurologic sequelae.⁶ It has been proposed that measurement of cerebrospinal fluid and plasma concentrations of ADH together with other tumour markers, such as calcitonin, creatine kinase BB, bombesin and neuron-specific enolase, may contribute to the diagnosis of CNS metastases due to SCLC.⁷ Most interestingly, the presence of larger forms (high molecular weight) of vasopressin has been demonstrated in patients with SCLC.^{8,9} Although SIADH is most commonly due to an increase in paraneoplastic ADH secretion reflecting ineffective therapy, it can also be due to release of ADH from malignant cells in the period of rapid tumour lysis, reflecting effective therapy.¹⁰ However, marker levels, including vasopressin, are not valid in defining the tumour load and cannot be used for clinical decisions on antineoplastic therapy.⁷

Overall, history taking, physical examination and routine laboratory tests suffice for the evaluation of patients presenting with hyponatremia.^{1,2,4} SIADH mandates a further diagnostic workup to identify its cause. The physician should consider the possible causes and pursue them with the appropriate diagnostic tests.^{2,4} Elaborate tests should be reserved for cases of uncertainty and clinical suspicion.

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Consolidating health care

The article by Steven Lewis¹ proposes some interesting new roles for the federal government in the “bog and fog” of health care. However, these proposals leave me wondering what tinkering with a multilevel governance system would really accomplish in providing better health care to Canadians. I am not a health care economist or a politician, but I keep wondering why none of the multitudes of studies and reports on our medicare system, as if we had one system, did not hint at the possibility of a truly radical reform.

Why do we tolerate multiple levels of bureaucracy at all? If health care is truly a core value of Canadians, why not amend the Constitution to give the federal government complete authority to provide these services? This would eliminate 13 provincial and territorial departments of health, provincial health care associations and regulatory bodies, many federations that collectively represent these bodies at the federal level and the need for transfer payments for health care, among others.

Think about it: no more provincial medical associations or colleges of physicians and surgeons, colleges of nurses, physiotherapy and so forth. No more wrangling about inequalities in