Lymphocytic hypophysitis

Case report


Departments of Endocrinology, Pathology, Neurosurgery, and Radiology, All India Institute of Medical Sciences, New Delhi, India

A case of lymphocytic hypophysitis is described in a patient presenting with panhypopituitarism 8 years after her last childbirth. The patient developed headache, vomiting, and diplopia (due to palsy of the right lateral rectus muscle) 7 months after delivery of her last baby. The diplopia disappeared after a few days with symptomatic treatment, and the headache and vomiting decreased in intensity with analgesic therapy. Eight years later the patient developed symptoms suggestive of hypoadrenalism, hypothyroidism, and amenorrhea. Investigations revealed panhypopituitarism with a pituitary mass lesion. Repeat evaluation 1 year later demonstrated no change in the size of the pituitary gland. The patient underwent transphenoidal surgery with a provisional diagnosis of pituitary adenoma. Histological examination of the resected gland revealed evidence of lymphocytic hypophysitis. Symptoms suggestive of a pituitary mass lesion were noted during the peripartum period, but features of hypopituitarism developed much later. Such a long latent period has not been reported before. This report also highlights the fact that glandular enlargement may persist for many years after the onset of lymphocytic hypophysitis.

KEY WORDS  • lymphocytic hypophysitis  • hypopituitarism  • pituitary tumor  • postpartum pituitary dysfunction

LYMPHOCYTIC hypophysitis is being increasingly recognized as a cause of hypopituitarism. It occurs almost exclusively in women during the peripartum period. The condition usually presents clinically as a pituitary mass lesion with hypopituitarism. As there are no definite biochemical or serological markers, diagnosis is often made based on the histological examination which reveals lymphocytic infiltration and varying degrees of edema and fibrosis. The natural history of the disorder is not quite clear. It is believed that if the inflammation of the hypophysis is left untreated, with time the glands would be destroyed and the patient may present with hypopituitarism and empty sella. We present a case of lymphocytic hypophysitis in which symptoms of raised intracranial pressure were noted during the peripartum period, features of hypopituitarism developed several years later, and pituitary gland enlargement persisted for more than 10 years.

Case Report

This 34-year-old woman had been in good health until May, 1981, when she developed headache, vomiting, and diplopia. She was seen by a local physician who noted palsy of the right lateral rectus muscle, which resolved with symptomatic treatment during the next few days. The headache and vomiting decreased in intensity with analgesic therapy. She started feeling very weak and lethargic in 1989 and noticed gradual loss of axillary and pubic hair; in 1990, she became amenorrheic. The patient had three full-term vaginal deliveries in 1975, 1977, and October, 1980. The pregnancies and deliveries were uneventful. She was referred to the Endocrine Clinic of All India Institute of Medical Sciences Hospital in November, 1991.

Examination. On physical examination, the patient was 153 cm in height and weighed 62 kg. She had facial puffiness, swelling of both feet, dry coarse skin, sparse axillary and pubic hair, and delayed relaxation of deep tendon jerks. Vital signs were stable; there was no postural fall in blood pressure. Ocular fundi and visual fields were normal. Examination of the gastrointestinal, respiratory, cardiovascular, and central nervous systems were unremarkable. Findings on hemogram, urine analysis, serum chemistry, electrocardiography, and chest and lateral skull radiography were normal. Urine volume over a 24-hour period was 1200 ml. The results of hormonal assays are shown in Table 1.
TABLE 1

<table>
<thead>
<tr>
<th>Hormone*</th>
<th>Value</th>
<th>Normal Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>thyroxine (μg/dl)</td>
<td>0.5</td>
<td>4–12</td>
</tr>
<tr>
<td>triiodothyronine (ng/dl)</td>
<td>64</td>
<td>60–180</td>
</tr>
<tr>
<td>thyroid-stimulating hormone (μU/ml)</td>
<td>0.3</td>
<td>0.3–5.0</td>
</tr>
<tr>
<td>luteinizing hormone (IU/liter)</td>
<td>1.32</td>
<td>3–12</td>
</tr>
<tr>
<td>follicle-stimulating hormone (IU/liter)</td>
<td>1.31</td>
<td>2–6.6</td>
</tr>
<tr>
<td>estradiol (pg/ml)</td>
<td>30</td>
<td>44–120</td>
</tr>
<tr>
<td>prolactin (mIU/ml)</td>
<td>85</td>
<td>110–540</td>
</tr>
<tr>
<td>cortisol (μg/dl)</td>
<td>basal</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>30 min post-ACTH</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>60 min post-ACTH</td>
<td>1.8</td>
</tr>
</tbody>
</table>

* ACTH = adrenocorticotropic hormone.

A contrast-enhanced computerized tomography (CT) scan obtained at another hospital in August, 1990, revealed a well-defined homogeneous sellar mass lesion measuring 1.1 cm with no evidence of supra- or parasellar extension, bone erosion, or midline shift. A repeat CT scan obtained 1½ years later at our hospital showed no change in the size of the mass (Fig. 1). A pelvic ultrasound study was normal.

Operation. Based on a tentative diagnosis of pituitary adenoma with panhypopituitarism, the patient received replacement doses of prednisolone and thyroxine in January, 1992. A firm yellowish tumor was excised via the transnasal, transphenoidal approach in April, 1992. Normal pituitary gland could not be identified separately.

Pathological Examination. The tissue removed at surgery was fixed in 10% buffered formalin, routinely processed, and embedded in paraffin. Sections 5 μ thick were cut and stained with hematoxylin and eosin. Microscopically, the lesion was characterized by dense infiltration of the anterior pituitary with lymphocytes and lesser numbers of plasma cells (Fig. 2). Among the inflammatory infiltrates, small islands of normal anterior pituitary cells were identified consisting mostly of chromophobes and acidophils. No adenomatous tissue was found. On the basis of the histological features, a diagnosis of lymphocytic hypophysitis was made.

Postoperative Course. The postoperative course was uneventful. The patient is doing well on replacement doses of thyroxine, prednisolone, and estrogen-progesterone.

Discussion

Lymphocytic hypophysitis presents most often during the peripartum period. Recently, there have been a few case reports of this disorder in men and in non-pregnant and postmenopausal women.5,9,9 The usual clinical presentation is that of a pituitary mass lesion and/or hypopituitarism.1,5,7,10 Imaging (CT and/or magnetic resonance imaging) cannot differentiate this lesion from a pituitary adenoma.5,9 Diagnosis is usually made histologically. The characteristic findings are infiltration of the adenohypophysis with lymphocytes and plasma cells, presence of lymphoid follicles with germinal centers, and destruction of the anterior pituitary cells.1

Our patient presented with features of pituitary mass lesion in the form of headache, diplopia, and sixth cranial nerve palsy during the peripartum period. She was not investigated until almost 8 years later when she had overt features of panhypopituitarism. Investigations then revealed a pituitary mass lesion in addition to hypopituitarism. A repeat CT scan obtained 1 year later showed no change in the size of the lesion. Histological examination confirmed the diagnosis of lymphocytic hypophysitis. In the absence of any laboratory evaluation prior to 1990, there is no way to determine the onset of hypopituitarism; however, the fact that she had...
regular menstruation until 1990 implies that at least her gonadotrophic function was not compromised until that time.

It is believed that if inflammation of the hypophysis is left untreated, the enlarged glands that produce mass effect in the initial stages of the disease may shrink as the glandular tissue is destroyed. Imaging may show an empty sella. A few cases have been described in which spontaneous regression of the mass and improvement in pituitary function occurred postpartum, and there is one case report of biopsy-proven lymphocytic hypophysitis during pregnancy with complete recovery postpartum.

Since lymphocytic hypophysitis closely resembles pituitary adenoma clinically, it should be an important differential diagnosis of the latter, particularly when the symptoms are related to pregnancy and puerperium, and when the degree of hypopituitarism is out of proportion with the pituitary mass.

To date, the appropriate and optimum management of patients with lymphocytic hypophysitis remains ill-defined. However, it is best to manage these patients expectantly when the symptoms develop in the classic clinical setting, and surgery should be performed only when mandated by the presence of visual impairment or other potentially irreversible neurological signs.

References


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Address reprint requests to: Ariacherry Ammini, D.M., Department of Endocrinology, All India Institute of Medical Sciences, New Delhi 110029, India.