ICD-10-CM Documentation and Coding Best Practices
Diabetes Insipidus

Overview

Diabetes insipidus (DI) is a rare disorder that occurs when the kidneys excrete abnormally large amounts of urine. In healthy adults, the kidneys produce 1 to 2 quarts of urine per day. In patients with diabetes insipidus, the kidneys pass 3 to 20 quarts of dilute, odorless urine per day. As a result, patients may feel the need to drink large amounts of fluids.

Fluid regulation cycle – One component of the body's fluid regulation cycle is the balancing of fluid intake with output. The thirst mechanism controls the rate of fluid intake while a hormone called *vasopressin*, or *antidiuretic hormone (ADH)*, controls the rate excess fluid is removed via the kidneys. Two small glands located at the base of the brain, the *hypothalamus* and the *pituitary gland*, are important to fluid regulation. The hypothalamus produces ADH. The pituitary gland stores and releases it into the bloodstream as needed. When fluid levels are low the pituitary gland releases ADH, which signals the kidneys to absorb less fluid from the bloodstream, resulting in less urine. When fluid levels are high the pituitary releases smaller amounts of ADH, or sometimes none at all. With less circulating ADH, the kidneys remove more fluid from the bloodstream, producing more urine.

Dehydration is the main complication of diabetes insipidus, which occurs when fluid output exceeds intake.

- Signs and symptoms of dehydration include thirst, dry skin, nausea, and fatigue.
- Immediate medical attention should be sought when more severe symptoms occur, such as confusion, dizziness, and sluggishness.
- Severe dehydration can lead to seizures, permanent brain damage, and even death.

Diabetes insipidus vs. diabetes mellitus – While diabetes insipidus and diabetes mellitus are both marked by constant thirst and frequent urination, the two conditions are unrelated.

Types of Diabetes Insipidus

1) **Central Diabetes Insipidus** – Damage to the hypothalamus or pituitary gland adversely impacts the production, storage and/or release of ADH. Diminished amounts of ADH cause the kidneys to remove too much fluid from bloodstream, resulting in excessive urination. Damage to the hypothalamus or the pituitary can be a result of:
    - Surgery
    - Head injury
    - Tumor
    - Infection or inflammation
    - Inherited defect in gene that is responsible for producing ADH

    Treatment:
    - Increased water intake to avoid dehydration
    - Mild cases may not require any medical treatment, other than increased water intake.
    - Desmopressin (*DDAVP*, *Minirin*) is the mainstay of treatment for central diabetes insipidus. Desmopressin is a synthetic hormone that works like ADH. It relieves the symptoms of DI, but does not cure the disease.

2) **Nephrogenic Diabetes Insipidus** – Release of ADH does not produce desired response in kidneys due to a defect in the kidney tubules. Kidneys continue to produce large amounts of urine, instead of reducing urine output. A defect in the kidney tubules can be caused by:
   - Genetic defect
   - Chronic kidney disease
   - Certain medications, such as lithium
   - Low blood potassium levels, or high blood calcium levels
   - Blockage of the urinary tract

   Treatment:
   - Increased water intake to avoid dehydration
   - Address underlying cause – Switching medications, or correcting potassium or calcium imbalances may resolve the problem.
   - Hydrochlorothiazise (*Microzide*), aspirin, and ibuprofen – Hydrochlorothiazide is in a class of drugs called diuretics, which act to increase urine output. When given to patients with diabetes insipidus, however, it seems to have the opposite effect, actually reducing urine production. Hydrchlorothiazide can be taken alone, or in combination with aspirin or ibuprofen, which also help reduce urine volume.

3) **Primary Polydipsia / Dipsogenic Diabetes Insipidus** – Damage to the thirst-regulating mechanism, which is found in the hypothalamus, results in an abnormal degree of thirst and excessive fluid intake. The same factors that can damage the hypothalamus and pituitary gland can also damage the thirst mechanism:
   - Surgery
   - Head injury
   - Tumor
   - Infection or inflammation
   - Certain mental health problems (ex., schizophrenia) can also predispose a person to dipsogenic DI

   Treatment
   - Lifestyle remedies – Sucking on ice chips or sour candies moistens the mouth and increases saliva flow, which may reduce the desire to drink.
   - Address mental disorder – Treating any contributing mental disorder may relieve symptoms.

4) **Gestational Diabetes Insipidus** – Gestational diabetes insipidus occurs when: a) An enzyme made by the placenta destroys ADH in the mother, or b) The pregnant woman produces increased amounts of a hormone-like chemical called *prostaglandin*, which reduces kidney sensitivity to ADH. Gestational diabetes insipidus is very rare, and only occurs during pregnancy.

   Treatment:
   - Desmopressin (most women will not require treatment after delivery)

ICD-10-CM Codes

Diagnosis	ICD-10 Code	Code Title
Central diabetes insipidus	E23.2	Diabetes insipidus
Diabetes insipidus	E23.2	Diabetes insipidus
Diabetes insipidus, pituitary	E23.2	Diabetes insipidus
Diabetes insipidus, vasopressin resistant	N25.1	Nephrogenic diabetes insipidus
Dipsogenic diabetes insipidus	E23.2	Diabetes insipidus
Gestational diabetes insipidus	O26.89x	Other specified pregnancy related condition **6th digit identifies trimester*
Nephrogenic diabetes insipidus	N25.1	Nephrogenic diabetes insipidus
Polydipsia	R63.1	Polydipsia
Primary polydipsia	NA	*There is no code assignment in ICD-10 for primary polydipsia. Query provider to determine whether dipsogenic DI is meant.*