

Case Report Links Chiari to Diabetes Insipidus

Many Chiari patients are aware of the various symptoms Chiari may cause, such as: headache, trouble sleeping, neck pain, balance issues and memory issues; however, a rare, accompanying disorder has recently been reported by medical professionals in Iran, namely diabetes insipidus.

Diabetes insipidus (also known as Central DI or CDI) is a hormonal abnormality that occurs when a body is unable to regulate fluids. Patients with this condition experience extreme thirst and heavy urination as their bodies are unable to properly metabolize salt and water. It is important to note that this diagnosis is not related to diabetes, formally known as “diabetes mellitus”, but rather is due to a lack of the hormone vasopressin. This important hormone regulates fluid levels in the body, is created in the hypothalamus, and released through the pituitary.

The subject of this case report was a 40-year-old man with severe thirst, intense urination, and intermittent, progressive pain in his right arm. His BMI was normal as well as his stature, vital signs, muscle mass, reflexes, and strengths of his upper and lower extremities. The laboratory reported a high serum sodium level and nephrology performed an abdominal ultrasound with no unusual findings. It was determined that diabetes insipidus was the main culprit of the strong urination after he underwent a water deprivation test and was administered desmopressin. A cervical MRI was ordered, which revealed a tight posterior fossa and a 5 mm tonsillar herniation. The man underwent decompression surgery and a few months later, reported improvement in pain, thirst, and urination issues.

This is the first report in the medical literature indicating a possible link between Chiari and diabetes insipidus; however, it is not the only link between Chiari and the pituitary gland. As many readers are aware, a subset of Chiari patients also experiences ‘empty sella syndrome’, or a flattened pituitary. In addition, Dr. Allen of the Conquer Chiari Research Center has theorized that the high levels of depression and anxiety seen in Chiari patients may be due a problem with the hypothalamus-pituitary-adrenal axis (HPA). Finally, pediatric Chiari has been linked to early puberty in both boys and girls.

Absent intracranial hypertension (chronically elevated pressure of the cerebrospinal fluid in the brain), how Chiari affects the pituitary is not clearly understood, but it is a promising area for further research.

Source: Roohollahi F, Iranmehr A, Mousavi ST, Hajiabadi M. Recovery of diabetes insipidus after Chiari malformation decompression: A rare manifestation of Chiari malformation. Clin Case Rep. 2022 Nov 27;10(11):e6649. doi: 10.1002/ccr3.6649. PMID: 36447669; PMCID: PMC9701833.

Conquer Chiari’s research updates highlight and summarize interesting publications from the medical literature while providing background and context. The summaries do contain some medical terminology and assume a general understanding of Chiari. Introductory information and many more research articles can be found in the [Conquer Chiari Library](#).