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'A DYING THIRST': AN INTERESTING CASE OF PSYCHOGENIC POLYDIPSIA –A CASE REPORT

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ABSTRACT Psychogenic or primary polydipsia (PP) a condition characterized by excessive thirst and compulsive water-drinking is a common problem among psychiatric populations, affecting about 6% to 20% of patients. PP can present as compulsive water drinking or consuming of other fluids, causing electrolyte dysregulation as a result of self-induced water/fluid intoxication. Here we present a case of psychogenic polydipsia in a 35 year old male with no pre-existing history of psychiatric illness who presented with water loading behavior as a result of psychosocial stress, leading to Dilutional Hyponatremia and seizures There are no current evidence-based treatment guidelines. Favorable treatment outcome was achieved by first correcting fluid imbalance symptoms and then control of compulsive urgency by combination of pharmacotherapy, adequate psycho-education, implementing appropriate stress management and behavioral change technique.

KEYWORDS : Psychogenic Polydipsia, Psychiatric Illness, Excessive Thirst, Electrolyte Dysregulation, Pharmacotherapy.

BACKGROUND:

Psychogenic or primary polydipsia (PP), a condition characterized by excessive thirst and compulsive water drinking, is a common problem among psychiatric patients, affecting about 6% to 20% of psychiatric patients1-7. PP can be defined as excessive consumption of fluids (>3L/day) with the absence of any physiological stimuli to drink. In psychiatric patients, polyuria (output of >3L/day) can exist as a compensatory mechanism or polydipsia and up to 25% of patients with polydipsia can present with Hyponatremia (serum sodium level below 130mmol/L)8-12. The pathophysiological mechanisms implicated include disturbance in thirst control not caused by impairment in the production or release of ADH (Anti Diuretic Hormone) also known as Self-induced water intoxication (SIWI), it can cause severe electrolyte dysregulation leading to serious life-threatening complications 13,14. It is found to be more noted in patients who are institutionalized as a consequence of severe long-term psychosis but that being said, it is also reported in patients who live in the community15,16.PP can occur as a post-operative complication and after traumatic brain injury in people with no history of mental illness. It can also be encountered as a part of MMDA (ecstasy) abuse 17. Here, we are reporting a case of PP in a 35- year-old male with no pre-existing history or family history of psychiatric illness who presented with water-loading behaviour as a result of psychosocial stress, leading to dilutional hypo-natremia and seizure. Psychomotor activity and speech were normal and he appeared to be of anxious affect. Content of thought revealed cravings and unable to resist yielding to them as well as preoccupations with both having access to and consuming water. No perceptual abnormalities were present.

Case:

A 35-year-old adult Mr.S, an illiterate, married male, cattle herder by occupation, belonging to lower socioeconomic status and of a rural background approached by himself the psychiatry outpatient department of Alluri Sitarama Raju Academy of Medical Sciences, a tertiary care centre in the town of Eluru. He came to overcome his problems of a) increased thirst b) increased water consumption c) increased urination for 2 years.

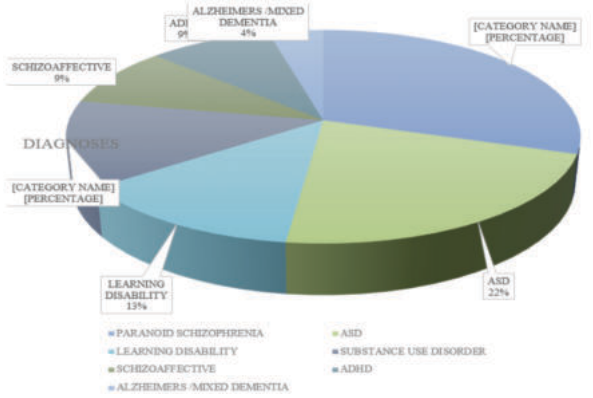
On the elicitation of history from the patient and his brother who accompanied him, it was revealed that the patient was functioning well until 2 to 3 years ago when he had a domestic dispute with his wife following which they got separated and she left their family home along with their 2 children to her maternal home. After this incident, the patient started feeling lonely and worried. Due to his occupation, he had the habit of carrying a 2.25 L water bottle along with him everywhere he went, which he would keep refilling so that he would not have to search for water to avoid dehydration as advised by his wife. After the marital separation, he initially started taking increased amounts of, water per day (10 litres/day) and gradually the intake grew to about (12-14L/day). He started feeling thirsty after waking up in the morning and needed to consume water soon as he woke up while talking or after and drink water after every five to ten minutes and also, every time he passed urine. He reported that he would feel restless and irritable if he was unable to get water or if his family would stop him from taking water. Despite his appetite getting decreased and he had suffered some weight gain over 2 years and had thoughts preoccupied with water intake. His sleep pattern started to deteriorate as he would awake 6-7 times at night to urinate. He would always keep a 2.25-liter bottle of water with him, at all times, would feel distressed at the thought of not keeping his water bottle at arm's length, and would become angry and irritable at family members who told him to cut down his water consumption.

Gradually, he also reported a loss of interest in work and stopped going to work, citing weakness and fatigability all through the day as the reason for absenteeism from work. There was no history of sadness or mood or any other depressive symptoms. No psychotic symptoms could be elicited and no other obsessive thoughts, images or impulses, or any other compulsive behaviour was present. No history of any organic cause was found. Past and family history was insignificant. No significant medical history was obtained. He did not have to aby history of substance use. Premorbid personality was of an extrovert, cheerful, conscientious and adult.

Treatment:

On further evaluation, the patient's complete hemogram, thyroid function tests, liver function, renal function tests (except serum sodium), blood sugar, and urine routine were found to be within normal limits. He was referred to the medical department for having low serum sodium levels (121 mmol/L) for which he has advised admission because of the increased risk of seizures. But, despite explaining the consequences of his condition he was reluctant for medical treatment and sought treatment for his compulsive water drinking on an OP basis. Hence patient was suggested treatment initially with vasopressin receptor antagonist (Tolvaptan) 30 mg in divided doses with the plan to taper off after sodium levels were stabilized. He was advised Desvenlafaxine 50 mg/Clonazepam 0.5 mg along with antipsychotic Olanzapine 5 mg, both at night. However, the patient developed 5

episodes of vomiting followed by seizures after returning to his hometown and returning to the Emergency the very next day. Serum sodium level upon admission was found to be 113 mmol/L Hyponatremia was corrected gradually with a 3% Normal Sodium bolus and maintained on infusion. After correction of hyponatremia and fluid restriction serum sodium levels showed an increase i.e, 120, 131, 133, and 135 mmol/L on days 1, 2, 3 4 of treatment respectively after which the patient was discharged.



Examination:

On Mental Status Examination, the patient was a conscious, oriented, cooperative, obese individual with good eye contact and rapport both established and maintained well. Throughout the interview, he sat clutching a 2.25-liter bottle of water which was filled (he reported to have finished about 3 litres before the visit in about 4 to 5 hours), and he was taking regular sips from the bottle after almost every few sentences, reporting inability to stop drinking water even when asked to, complaining of feeling thirsty as he spoke and becoming distressed and refused to leave the bottle even for a few minutes.

Psychomotor activity and speech were normal; he appeared to be of anxious affect.Content of thought revealed cravings and unable to resist yielding to them as well as preoccupations with both having access to and consuming water. There were no perceptual abnormalities present.

DISCUSSION:

This particular patient was found to be within the anxiety spectrum which led him to compulsive water drinking as a manifestation of his anxiety induced by the underlying stressor.PP was also reported earlier from Belgium in a female patient without any background of psychiatric illness [18]. PP remains an under diagnosed entity and often comes to the attention of a psychiatrist after the onset of complications like seizures, as was seen in this patient. It has been reported in 13% of people with a diagnosis of SUD, in this particular case the compulsive need to drink water or 'cravings' similar to other substances was due to a manifestation of the patient's anxiety symptoms. And over a course of time, it had developed into 'water addiction'. Here, we were able to achieve a favourable response by detecting and correcting hyponatremia and adequately treating the patient's anxiety symptoms with SNRIs and antipsychotics[6,19]. Few studies have shown the beneficial effects of risperidone and olanzapine[20]. Olanzapine was chosen because of the lower risk of extra pyramidal symptoms and the effect on anxiety symptoms that is seen with atypical antipsychotics. Some studies reported that acetazolamide was found to be effective in the treatment of psychogenic polydipsia [21,21].

CONCLUSION:

In conclusion, PP may at times be a commonly encountered problem in psychiatric patients. The pathophysiology of PP is complex and not well understood. PP is associated with a wide spectrum of psychiatric co morbidities beyond Schizophrenia. Moreover, there may be an increased prevalence of habitual polydipsia in certain populations which could be due to lifestyle, occupational, environmental, and psycho-social stressors. Several factors impairing water excretion exist and may promote hyponatremia in PP, a condition linked to substantial morbidity and mortality. Even though fluid restriction is used as a successful measure to correct the complication of acute hyponatremia, in the long run, treatment options for this typically chronic condition are scarce. There are no recent treatment guidelines available which make it a condition that remains difficult to treat and manage.

There appears to be a gap in the literature concerning the diagnosis, treatment, and long-term outcomes of the condition. Further studies elaborating on appropriate novel therapeutic approaches would be desirable.Awareness among psychiatrists about the consequences of water intoxication, its approach, and its management both in the acute and chronic settings.

Conflict Of Interest Statement:

The authors report no conflict of interest related to this case report.

Informed Consent:

Written informed consent was obtained from the patient for willingness to share details of his condition and for scientific publication after explaining the purpose of the study. The authors report no conflict of interest related to this case report.

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