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RESEARCH ARTICLE

AN UNUSUAL CASE OF POST ABDOMINAL TUBERCULOSIS INDUCING DIABETES INSIPIDUS: A CASE REPORT

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ABSTRACT

Diabetes insipidus (DI) is well known entity, in which patient present with increased urinary frequency, increased thirst. Such symptoms may last for days to months before patient presents to doctor. Diabetes insipidus may be secondary pituitary tuberculosis, sub arachnoid hemorrhage, sarcoidosis or any other etiology. Usually diabetes insipidus secondary to some other reason last for few years. DI cases have been resolved after using desmopressin nasal spray for around 3 years, secondary to some reason in many studies. We present you a case of diabetes insipidus in a 27 year male patient post abdominal tuberculosis lasting and even continuing after 9 years of taking complete course of antitubercular treatment.

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INTRODUCTION

Diabetes insipidus, is characterized by the excretion of copious volumes of unconcentrated urine, resulting from a deficiency in the action of the antidiuretic hormone arginine vasopressin and can be caused by any of four fundamentally different defects, including impaired secretion (neurohypophyseal diabetes insipidus), impaired renal response (nephrogenic diabetes insipidus), excessive fluid intake (primary polydipsia), or increased metabolism of the hormone (gestational diabetes insipidus) (Robertson, 2019). Central diabetes insipidus is rare in children and young adults, and up to 50 percent of cases are idiopathic. The clinical presentation and the long-term course of this disorder are largely undefined (Maghnie, 2000). In a study,an encephalic MRI showed sellar and suprasellar masses, suggesting central diabetes insipidus (CDI). The patient received standard tuberculosis (TB) treatment for 6 months and also DDAVP (desmopressin acetate) during this period. Control of CDI was observed.

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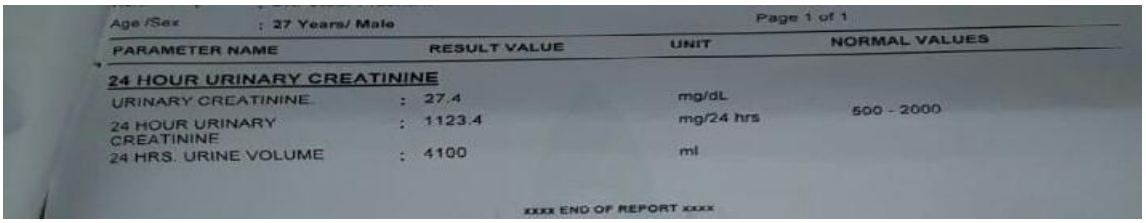
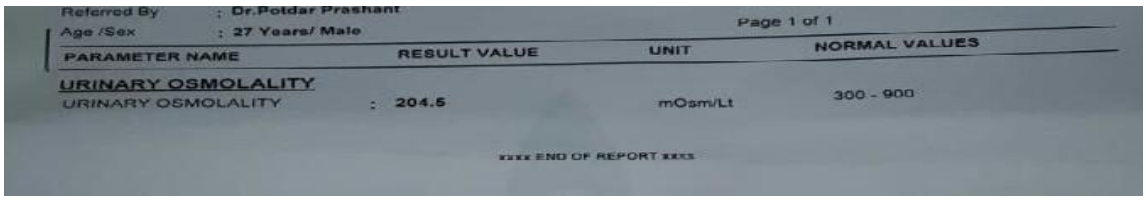
A pre-surgical magnetic resonance imaging (MRI) showed no pituitary mass. It is known that intrasellar tuberculoma occurs in only 1% of TB patients. This study stated that tuberculosis should be considered in the differential diagnosis of CDI, especially in immunosupressed patients and in countries where this infection is a serious public health problem (Domiciano, 2019). In an another study in 2007 reported a case of pituitary tuberculosis presenting with features of anterior and posterior pituitary dysfunction and central diabetes insipidus. That case was alreadyon antitubercular treatment for prostate tuberculosis. Study stated that Tuberculous involvement of the pituitary is extremely rare (Sunil, 2017). An another case report, stated that the clinical diagnosis of diabetes insipidus and the tuberculous aetiology in this patient are beyond question. A response to vasopressin therapy has been achieved, but management in a child of 5 years (the youngest on record) has proved a difficult problem. Injections of vasopressin gave a prompt effect, but its duration was unpredictable and the injections were often painful. The use of vasopressin snuff has resulted in fair control, but at the cost of high dosage and nasal infection. Three of the recorded cases have apparently recovered within two and a half years of the onset of diabetes, so that an optimistic prognosis may yet be justified



Age /Sex : 27 Years/ Male — Page 1 of 1

PARAMETER NAME	RESULT VALUE	UNIT	NORMAL VALUES
24 HOUR URINARY CREATININE			
URINARY CREATININE	: 27.4	mg/dL	
24 HOUR URINARY CREATININE	: 1123.4	mg/24 hrs	500 - 2000
24 HRS. URINE VOLUME	: 4100	ml	

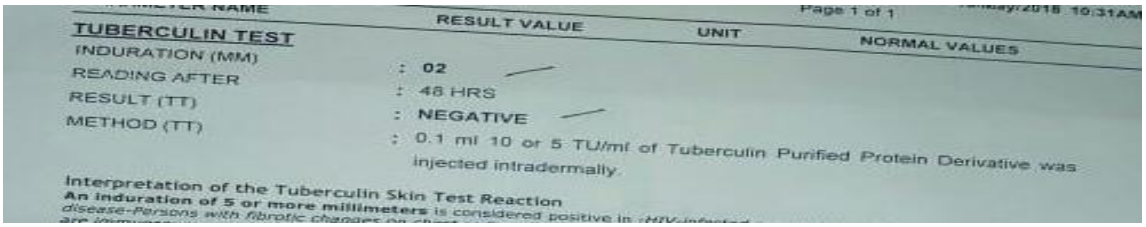
xxxx END OF REPORT xxxx



Referred By : Dr.Potdar Prashant
Age /Sex : 27 Years/ Male — Page 1 of 1

PARAMETER NAME	RESULT VALUE	UNIT	NORMAL VALUES
URINARY OSMOLALITY			
URINARY OSMOLALITY	: 204.5	mOsm/Lt	300 - 900

xxxx END OF REPORT xxxx



Page 1 of 1

	RESULT VALUE	UNIT	NORMAL VALUES
TUBERCULIN TEST			
INDURATION (MM)	: 02		
READING AFTER	: 48 HRS		
RESULT (TT)	: NEGATIVE		
METHOD (TT)	: 0.1 ml 10 or 5 TU/ml of Tuberculin Purified Protein Derivative was injected intradermally.		

Interpretation of the Tuberculin Skin Test Reaction
An induration of 5 or more millimeters is considered positive in

Arya V 1999 stated that diabetes insipidus is a known entity due to tuberculosis due to pituitary dysfunction (Arya, 2019).

CASE REPORT

27 year young male patient security guard by occupation presented with increased urinary frequency. He stated that he used to get to urinate every 2 hourly every day for 9 years. He also used to drink water on as thirst basis. He was conscious, obeying, well oriented. His height was 165cm and weight of 65 kg. He did not appear dehydrated. His heart rate was 68/minutes, blood pressure 128/74 mmHg, respiratory rate was 14/minute. His air entry was equal on both sides of lung fields; there was no any adventitious sound. Heart sounds were normal. There was no history of burning urination, fever, weight loss. There was no any history of headache, blurring of vision. On detail history, he stated that he had history of abdominal tuberculosis 9-10 years before for which he received anti tubercular treatment for 9 months. He also stated that his symptoms started before starting anti tuberculosis treatment. 24 hour urinary volume turned out 4.1 litre(more than 50 ml/kg/day). His urinary osmolarity turned out to be 204.5mosm/l, Serum osmolarity was 284.5 mosm/l. Urinary creatinine was 27.4 (within normal limits) and 24 hour urinary creatinine was 1123 mg (within normal limits).Hemoglobin was 15.9 gm%, RBC count was 5.47 million/mm3, total leucocyte count was 5100/mm3, platelet count was 2.72 lakh.ESR was 28 (slightly elevated and less than three times. His CRP was 15.28.serum sodium was 133 meq/l, serum potassium was 5.1 meq/l and serum chloride was 100 meq/l. His liver function test was within normal limits. Ultrasonography did not reveal any abnormal finding. Tuberculin test was done and the induration was 02 mm (negative). He was diagnosed with dibetes insipidus and put on desmopressin nasal spray 0.1 mg twice a day which significantly improved his symptoms but frequency of urination was still around 6 times per day, so frequency of nasal spray was increased to 0.1 mg three times a day over which his urinary frequency settled to around 3-4 times per day.

DISCUSSION

Our patient had diabetes insipidus since 9 years, after having abdominal tuberculosis. His diabetes insipidus continued even after completion of antitubercular treatment. Instituting desmopressin by nasal spray relieved his symptoms. But continuation of desmopressin is challenging for patient on financial, psychological basis. Till what time or for how many years desmopressin must be continued in this patient remains a unanswerable question for now. DI after pituitary involvement of tuberculosis is well known. Such occurrence of diabetes insipid us in a patient may occur in patient who had abdominal tuberculosis in absence of any other tubercular manifestation. How to proceed further in such patients who present with DI with long past history of tuberculosis in absence of any current manifestation also remains a difficult question to answer.

Conclusion

Diabetic insipid us can occur in patient post abdominal tuberculosis. DI can persist even after years of completing tuberculosis treatment in absence of active tubercular manifestation. Duration of continuing desmopressin for such patients remains an unanswerable question.

Patients Perspective: I was suffering from this disease since years**,** but I did not think of having such an etiology. Now when I have started a job, it was really bothersome for me to go for urination again and again. Now I am bit relieved from my symptoms because of this desmopressin medication, but still I don't know for how many years or months I need to continue this medication. I hope with time this condition of mine settles spontaneously.

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