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To emerge as one of the premier pharmacy colleges in the country and produce pharmacy professional of global Standards.

MISSION

• To deliver quality academic programs in Pharmacy and empower the students to meet industrial standards.

• To build student community with high ethical standards to undertake R&D in thrust areas of national and international standards.

• To extend viable outreach programs for the health care need of the society.

• To develop industry institute interaction and foster entrepreneurial spirit among the

A Rare Case Report on Primary Sjogren's Syndrome Complicating as Osteomalacia With Renal Tubular Acidosis

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Introduction

Sjogren's syndrome (SS) is a chronic disorder of the exocrine glands with associated lymphocytic infiltrates of the affected glands . The most common renal disease in SS is tubulointerstitial nephritis, responsible for renal tubular acidosis (RTA) in 20% of the patients. Type-I distal RTA (RTA type-I) is characterized by non-anion gap hyperchloremic acidosis and hypokalemia. Type-II proximal RTA (RTA type-II) may occur secondary to generalized dysfunction of the proximal tubules and is associated with increased urinary excretion of glucose, uric acid, phosphate, amino acids and protein.

Osteomalacia rarely occurs as the first manifestation of renal tubule disorder due to SS. Herein, we report a patient with RTA-induced osteomalacia caused primarily by SS.

CASE REPORT:

A female patient of age 41 yrs with chief complaints of bilateral thigh pain which restrict her walking, weakness and She had no extra-articular complaint. The neurological exam found a motor deficit of the pelvic belt. There was no joint pain or evidence of arthritis. Musculoskeletal radiography X-ray of the long bones showed bone demineralization. An isotope bone scan showed increased uptake at the seventh and eight right ribs, on the left femoral neck and in the pubic rami. She had a waddling gait and reported pain upon palpation of the bones. The MRI showed a fissure on the left femoral neck. Urinary strip examination showed glycosuria without proteinuria or hematuria and inappropriate alkaline urine (urinary pH: 7, serum pH: 7.37).

Investigation	Observed value	Normal value
Sodium	140mEq/L	135-145mEq/L
Potassium	3.2mEq/L	3.6-5.0 mEq/L
Phosphate	0.4mmol/L	0.8-1.4 mmol/L
Chlorine	214mEq/L	98-109mEq/L
Serum alkaline phosphatase	370IU/L	30-120IU/L
Serum 25 hydroxy vitamin D	< 9µg/L	30-80 µg/L
Parathyroid level	90pg/mL	7-65pg/mL
T_4	0.83ng/dL	0.7-1.5ng/dL
TSH	1.88µIU/mL	0.1-4.5 µIU/mL
Urine protein	0.42g/day	0.6-1.5g/day
Urine phosphate	93mg/day	400-1300mg/day
Urine calcium	84mg/day	93-248mg/day

The kidney biopsy showed diffuse and severe tubulointerstitial nephritis with dense lymphoplasmocyte infiltrates. Thus, our patient had both distal and proximal renal tubular disorder and osteomalacia, which may be attributed to diffuse tubulointerstitial nephritis related to primary SS. The patient received alkalizing agent (NODOSIS), vitamin D (Shelcal-d), calcium supplements and steroids at 1 mg/kg/day, tapered to 10 mg daily. Her muscle weakness improved rapidly and the inability to walk disappeared gradually.

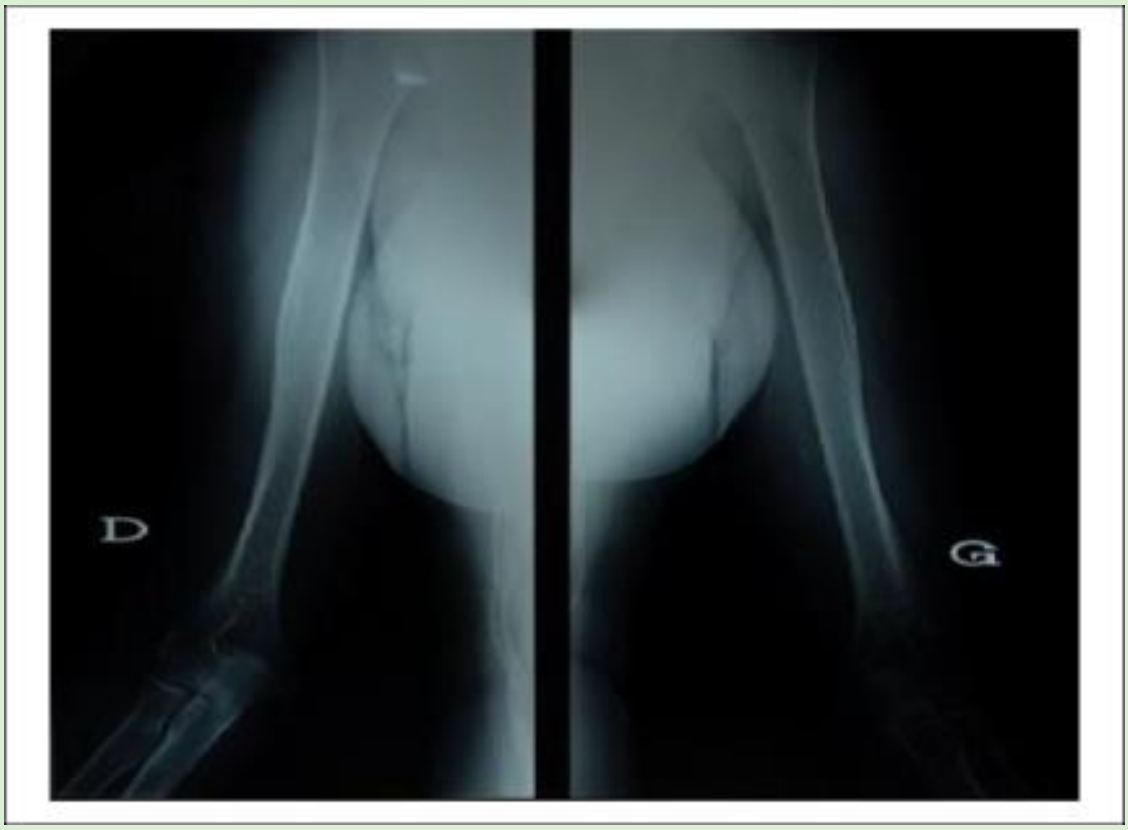

Figure :1 X- ray of long bone showing demineralization

DISCUSSION

Renal involvement is not rare in patients with SS, although rates of involvement vary widely across studies. Chronic tubulointerstitial nephritis is the usual pattern of kidney disease. In this case, the pathophysiological mechanisms remain unclear and cell apoptosis may play a part. Studies have also suggested a key role for the Fas/Fas ligand system in the gland destruction that characterizes SS. Overt or latent RTA, caused by the autoimmune tubulointerstitial nephropathy, is a common extra glandular manifestation occurring in ss patients. The underlying mechanism is related to deficient H+-ATPase pump function.RTA is characterized by the presence of hyperchloremic metabolic acidosis with normal anion gap. The serum potassium may be nor mal, low or high, depending on the type of RTA. Urinary excretion of phosphate with low levels of serum phosphate, urinary excretion of protein and glucosuria associated with normal glucose are suggestive of proximal tubular involvement haracterized by an alteration of bone mineralization, frequently related to alterations in vitamin D or phosphate metabolism.

Low levels of serum calcium, low serum phosphate except in cases of renal osteodystrophy, low urinary calcium, low vitamin D concentration in blood and high alkaline phosphatase. In proximal RTA, renal phosphate loss is the principal contributing factor to osteomalacia, while in distal RTA, a combination of acidosis and hypophosphatemia are implicated, and coexisting vitamin D deficiency may be an aggravating factor. The mechanisms leading to osteomalacia may include bone buffer release in response to metabolic acidosis and acidosis-induced dampening of osteoblast alkaline phosphatase activity. Furthermore, the pathogenesis of osteomalacia induced by RTA in SS is related to an autoimmune tubulointerstitial nephropathy. The diagnosis of SS was made by the subjective ocular and oral symptoms positive Schirmer's test. Glucocorticoid treatment has been used successfully in patients with osteomalacia related to RTA. correcting the acidosis by giving alkalinizing agents with supplemental vitamin D may be sufficient. Our case report is a valuable reminder that osteomalacia can reveal SS and that high-dose corticosteroid therapy may improve renal involvement by SS as well as osteomalacia related.

Conclusion

Latent renal tubular disease is common is SS, but is rarely complicated by osteomalacia. Primary SS could be a differential diagnosis in women with acute weakness, mild hypokalemia and osteomalacia. In spite of the rarity of osteomalacia revealing SS, this complication should be taken into consideration in the diagnosis of SS with RTA.

Departmental Activities November-2022:

No of Patients Screened	Drug Information Queries	Adverse Drug Reactions	Medication Errors	No of Prescriptions Audited
839	24	23	03	1125