



A concurrent primary hypoparathyroidism with bladder carcinoma in a 52-year-old man, who initially presented with macroscopic hematuria

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We recently had a 52-year-old patient, who initially presented with an episode of hematuria. Patient was admitted for further investigation. He had not history of drug taking, radiation therapy or surgery. Urine sediment revealed that, hematuria was not glomerular. In sonography of the kidney and urinary tract, two mass lesions of 25×31 mm and 45×52 mm in bladder was detected. A cystoscopy of the bladder supported, the sonography findings and a conducted biopsy of the bladder reported to be a transitional carcinoma. Patient then underwent a partial cystectomy and bilateral DJ insertion. During the admission period, we noticed to a serum calcium of 5.5 mg/dl, which accompanied by a serum phosphorus of 6.5 mg/dl, while serum creatinine was 0.8 mg/dl. Other laboratory exams consisting of a serum albumin of 4.2 g/dl, alkaline phosphatase; 287 IU/l, uric acid; 4.2 mg/dl, K; 3.5 mEq/dlm, HCO₃; 28 mEq/l, serum magnesium level was 2 mg/dl. Additional laboratory test revealed a serum vitamin D level of 47.4 ng/ml and serum parathormone of 8.7 pg/ml. Thyroid function tests was within normal values. With the diagnosis of primary hypoparathyroidism, treatment with calcium carbonate and calcitriol and hydrochlorothiazide at the appropriate dosages was started and patient with well condition was discharged. The first question bears in mind is, about the association of bladder carcinoma with primary hypoparathyroidism, while the patient had no history of other diseases containing rheumatologic disease and no history of neck radiation or surgery. Hypoparathyroidism is defined by a low or inappropriately normal levels of parathyroid hormone hypocalcemia and hyperphosphatemia (1,2). Parathormone is a main calcium regulating hormone indispensable for vitamin D-dependent calcium absorption, kidney calcium re-absorption, calcium homeostasis and renal

■ Implication for health policy/practice/research/medical education

Hypoparathyroidism is defined by low or inappropriately normal levels of parathyroid hormone hypocalcemia and hyperphosphatemia. In this paper, we described a concurrent primary hypoparathyroidism with bladder carcinoma in a 52-year-old man, who initially presented with macroscopic hematuria. We concluded that, this association may be an incidental finding, however, we suggest to more attention to this aspect of primary hypoparathyroidism.

phosphate clearance (1-3). While most common cause of hypoparathyroidism is anterior neck surgery and removal of parathyroid glands, however, hypoparathyroidism can be due to congenital or acquired disorders such as, autoimmune diseases, genetic abnormalities, infiltrative disorders or destruction the parathyroids. Impaired secretion of parathormone may be detected with hypomagnesemia too. However, there is a rising incidence of the autoimmune form of hypoparathyroidism, which may happen in combination with other autoimmune diseases (1-3). While parathyroid glands are necessary to maintain life and maintain homeostasis, neglected or misdiagnosed hypoparathyroidism may lead to a health threat. The clinical consequences of parathormone deficiency or impaired receptor action are multidirectional and comprise nervous hyperexcitability, tetany, basal ganglia calcifications, hyperreflexia, paresthesias, convulsions, cataract, cramps and brittle nails (2-4). In some patients, conversely, its manifestation may be non-specific, and in these subjects the correct diagnosis may be simply missed. Work-up includes a comprehensive history, physical examination, and an appropriate biochemical investigation. Treatment contains oral

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calcium supplementation and vitamin D derivatives. In the long-term management of hypoparathyroidism thiazide diuretics are of value as they increase renal calcium reabsorption and increase serum calcium (1-5). In our patient, we could not explain any association between bladder carcinoma and hypoparathyroidism. Additionally, there was not any published of a similar case by searching PubMed, Scopus and Goggle Scholar. Hence, It is possible the there was a simultaneous association of bladder carcinoma and hypoparathyroidism. In fact, synchronous hypoparathyroidism and bladder carcinoma are extremely rare. To our best of knowledge, our current case is the first documented patient. We suggest to more attention to this aspect of primary hypoparathyroidism.

Authors' contributions

All authors contributed to paper equally.

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References

1. Ramakrishnan Y, Cocks HC. Impact of recombinant PTH on management of hypoparathyroidism: a systematic review. *Eur Arch Otorhinolaryngol* 2015 Jan 8.
2. Christopher RH, David KV, Pricilla RA. Primary hypoparathyroidism presenting with new adult onset seizures in family practice. *J Family Med Prim Care*. 2014; 3(3): 266-8.
3. Maeda SS, Fortes EM, Oliveira UM, Borba VC, Lazaretti-Castro M. Hypoparathyroidism and pseudohypoparathyroidism. *Arq Bras Endocrinol Metabol* 2006; 50(4): 664-73.
4. Krysiak R, Handzlik-Orlik G, Kedzia A, Machnik G, Okopień B. Hyperparathyroidism: the present state of art. *Wiad Lek* 2013; 66(1): 18-29.
5. Al-Azem H, Khan AA. Hypoparathyroidism. *Best Pract Res Clin Endocrinol Metab* 2012; 26(4):517-22.

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