KSN 2017 Abstract

KSN-17-P216

Case report : Primary hyperparathyroidism caused by parathyroid carcinoma resulting in renal insufficiency

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Background: Parathyroid carcinoma is a rare cancer that parathyroid adenoma can be progressed to the malignant state. Parathyroid carcinoma is frequently associated with Hyperparathyroidism by overproduction of parathyroid hormone. Rarely there is nonfunctional parathyroid carcinoma Hyperparathyroidism, resulting in high serum calcium levels and PTH, bone diseases (osteoporosis, fragile bone), renal insufficiency, renal stones. It has no specific clinical findings. Symptoms have a variety of constellation, such as nausea, vomiting, oliguria, constipation, or jaw pain even confusion and personality change Surgical removal of the carcinoma is the treatment of choice for Hyperparathyroidism due to malignancy showing typical complaints about primary hyperparathyroidism. We report a case of 68-year-old man who had symptoms of nausea and anorexia and decreased urine output. Who was initially diagnosed to primary hyperparathyroidism on December 2009.

Method: We used Neck CT and parathyroid scan (Tc-99m MIBI) to evaluate the hyperparathyroidism and laboratory studies were used in this case. Diagnostic confirm was acquired with the surgical biopsy preceded by the unilateral parathyroidectomy .

Result : 65-year-old man who was primarily diagnosed hyperparathyroidism was admitted to the hospital. He received Lt. thyroidectomy and central neck dissection in Feb. 2010 (6 years ago). At that time, He has had symptom of fatigue and the initial Total calcium and phosphate level were >16.5, 5.7. Azotemia was checked serum BUN, Cr level were 112, 2.5 each. He received the acute hemodialysis and was operated on the Lt. thyroid gland by lobectomy& parathyroidectomy, central neck dissection. After he discharged from the hospital, loss to follow-up was happened. After 6 year, the man had symptoms of anorexia, nausea and epigastric pain. The urine output also decreased during 6 months. Initial laboratory data also showed hypercalcemia and azotemia. [Tca: 17.4, P: 6.5, BUN:96.0, Cr:4.53] The serum PTH level was elevated to 473.26 ng/mL and Total amylase, lipase level also elevated, checked by 1627, 2091 respectively. It was suspicious for us to study the laboratory findings showing hyperparathyroidism, combined with renal insufficiency& acute pancreatitis to this patient. He was admitted to the ICU

received CRRT , even hemodialysis consequently. The parathyroid MIBI scan showed hyperfunctioning parathyroid gland in left anterior neck We have clinical assume in this patient to be taken with primary hyperthyroidism. So, Lt. parathyroidectomy was proceeded to this patient. After parathyroidectomy, the serum PTH level was lowered and serum Ca level diminished, also. Azotemia of this patient also improved. There was no need for the patient to receive the continuous hemodialysis furthermore. It is confirmed by Pathologic study with the result of parathyroid carcinoma. It can convince the clinical manifestations associated with the hyperthyroidism in this case. Furthermore, radiologic study with abdominal CT showed the fluid collection in pancreatic parenchyme. It can explain his symptom of epigastric pain Sign with elevated serum amylases and lipases. For the management to his acute pancreatitis, the rest of his Gastrointestinal apparatus by diet restriction was done until serum amylase and lipase had been stabilized to the normal level.

Conclusion: Parathyroid carcinoma is a rare malignant neoplasm resulting in hyperparathyroidism.The patient who have already known parathyroid adenoma on 2010 progressed to carcinoma. Parathyroid carcinoma leads to hyperparathyroidism and renal insufficiency.In this case, the patient admission to ICU and treat with CRRT and Lt. parathyroidectomy at the end. In addition, there is wide spectrum of symptoms that can reveal hyperparathyroidism from anorexia, fatigue to pancreatitis especially in this case rarely.

Keywords : parathyroid carcinoma, primary Hyperparathyroidism, Hypercalcemia