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PARATHYROID ADENOMA PRESENTING WITH RECURRENT ABDOMINAL PAIN AND RENAL CALCULI

Introduction:
Parathyroid adenoma is the single most common cause of hyperparathyroidism. Reported incidence of parathyroid adenoma varies widely and is 30- 90%. Approximately 80% to 85% of patients with primary hyperparathyroidism were found to have solitary parathyroid adenoma.

The hyperparathyroidism due to parathyroid adenoma may progress insidiously over several years and eventually presents as renal colic or symptoms may manifest over a considerably shorter period of time. Greater than 50% of patients present with nephrolithiasis or nephrocalcinosis. The present case report describes a 48 year old male patient with symptoms of abdominal pain.

Key words: Hyperparathyroidism, Nephrolithiasis, Parathyroid adenoma, Scintigraphy

INTRODUCTION:

Single glandular enlargement of parathyroid gland is called adenoma. It is the single most common cause of hyperparathyroidism. Reported incidence of parathyroid adenoma varies widely and is 30- 90%. Approximately 80% to 85% of patients with primary hyperparathyroidism were found to have solitary parathyroid adenoma.[1] Parathyroid adenoma may occur in any of the four parathyroid glands but may involve inferior glands more commonly than the superior glands.[2] The gross appearance of parathyroid adenoma is variable, but generally, they are oval or bean shaped, red brown in colour and soft in consistency.[3] The incised surface of an adenoma may appear smooth, nodular or may show obvious areas of cystic changes. Under light microscopy, adenomas appear similar to normal parathyroid glands; exhibiting a thin fibrous capsule with a cellular framework arranged in nests and cords invested by a rich capillary network.[3] Proliferation of the parenchymal cells leading to increase in gland weight in multiple parathyroid glands in the absence of known stimulus for parathyroid hormone secretion is called parathyroid gland hyperplasia.[4] Grossly, there is enlargement of cells of four glands. The glands may be of variable size or they may be uniformly enlarged. The symptoms of parathyroid adenoma with hyperparathyroidism may be weight loss, acute gastrointestinal symptoms, anorexia bone pain and pathologic fractures. Greater than 50% of patients presents with nephrolithiasis or nephrocalcinosis.[6]

CASE REPORT:

A 48 years old male patient was referred to ENT out patients department by general surgery department after he had come with complaints of abdominal pain. He was treated in many hospitals for the same problem for last seven years. He had history of pyelolithotomy done twice. Ultrasonography of abdomen suggested diagnosis of chronic pancreatitis and bilateral multiple nephrolithiasis. Serum calcium level was slightly higher than the normal limit. USG of neck showed hypoechoic lesion at the right lower parathyroid region. There was no history of swelling in the neck, weight loss, acute gastrointestinal symptoms, anorexia, bone pain and pathologic fractures. ENT head and neck examination were within normal limit. Thyroid gland was not palpable. Parathyroid hormone level was significantly raised and sestamibi technitiun 99m scintigraphy scan revealed right lower parathyroid adenoma. Pre-operative investigation was sent and neck exploration and right lower parathyroidectomy was planned. Under general anaesthesia, a low transverse cervical incision (kocher) was designed two finger-breath above the suprasternal notch on natural skin crease. Subplatysmal flap raised. The incision was not extended beyond the sternocleidomastoid muscle. The midline raphe of the strap muscle was identified and separated. The thyroid lobe on the side being explored was then retracted antero- medially to access potential space posterior to the thyroid lobe. Ligation of superior and inferior thyroid arteries was not necessary. Visualized enlarged parathyroid adenoma was palpated and dissected out. It was approximately 2 cm in length and 1.5 cm in breath, oval in shape, red brown in colour and soft in consistency. The incised surface appeared smooth. Removed gland was sent for histopathological examination and report came out to be parathyroid adenoma. The tumour was covered by fibrous capsule and cells consisted of granular cytoplasm. Recovery of the patient was uneventful.

DISCUSSION:

Parathyroid tissue originates from primordial pharyngeal ectoderm formed in the third and fourth pharyngeal pouches during the fifth week of embryologic development. The epithelial lining of dorsal wing of the third pharyngeal pouch differentiates into primordial parathyroid glandular tissue where as the ventral portion of the pouch differentiates into the thymus. As the thymus migrates medially and inferiorly, it pulls the inferior parathyroid glands with it into the thymic tail in the upper thoracic region. This embryologic pattern of development has significant implications for the identification of ectopic or normal glandular variance during the course of parathyroidectomy.[5] The diagnosis and localization of parathyroid adenoma is by sestamibi-technitium 99m scintigraphy, high resolution ultrasonography, contrast enhanced CT scan or with MRI scan. The sensitivity reported with sestamibi-technitium 99m scintigraphy for solitary adenoma is as high as 100% with specificity approximately 90%.[7] We present this case to acquaint the clinician about the presentation and the treatment option of the disease. Recurrent abdominal pain and nephrolithiasis, in a patient should be referred to ENT surgeon.

Figure 1: Sestamibi technetium 99m scintigraphy parathyroid scan

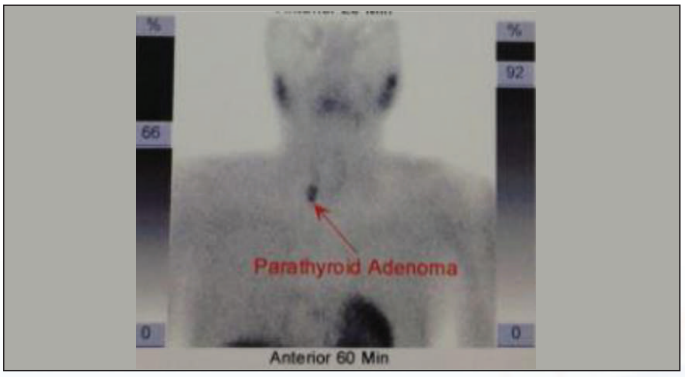

Figure 2 : Intraoperative localization of parathyroid adenoma with retraction of thyroid gland medially

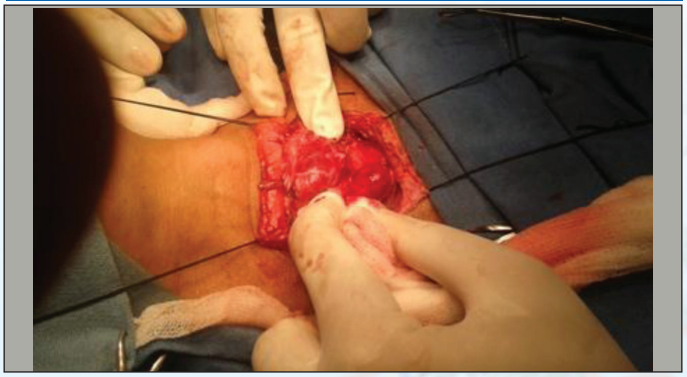

Figure 3: Dissection of right inferior parathyroid adenoma

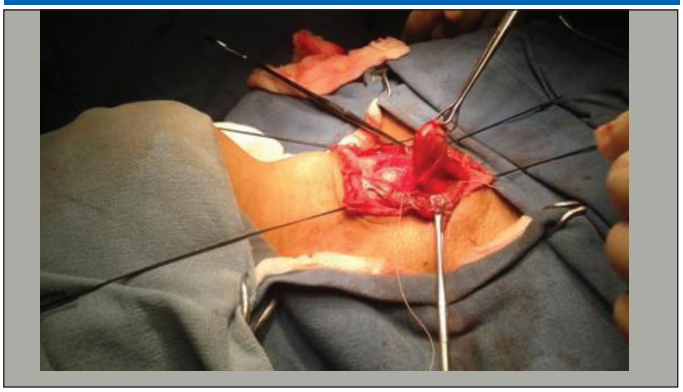

Figure 4: Cut section of excised mass

CONCLUSION:

Despite rare tumour, parathyroid adenoma needs to be recognized. It may present with abdominal pain and any patient with recurrent nephrolithiasis, parathyroid adenoma should be ruled out. Parathyroidectomy in selected symptomatic patients is treatment of choice.

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