Intrathyroidal Parathyroid adenoma presenting as cellulitis neck-a case report.
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Abstract : Intrathyroidal parathyroid adenoma is an infrequent lesion which can be explained by abnormalities during embryonic migration of the parathyroid glands. Intrathyroidal parathyroid adenoma presenting as cellulitis neck is extremely rare. We report a rare case of intrathyroidal parathyroid adenoma presenting as cellulitis neck.

Keyword : Intrathyroidal parathyroid adenoma, primary hyperparathyroidism, cellulitis neck.

Introduction: The prevalence of intrathyroidal parathyroid adenoma is 1.4 to 6%. Embryologically, parathyroid glands originate from the third and fourth branchial pouches and migrate caudally to their final positions[1,2]. It is conceivable that aberrations during migration result in anomalous locations and the parathyroid is trapped within the thyroid as the lateral lobe of the thyroid fuses with the isthmus. While solitary parathyroid adenoma is the commonest cause of primary hyperparathyroidism[3]. An intrathyroidal parathyroid adenoma is an uncommon cause of primary hyperparathyroidism which commonly presents as bone fractures, confusion, constipation, lethargy, kidney stones, muscle pain and nausea[4].

Case Report: A 35year old male presented with complaints of diffuse swelling over the neck with pain and fever for past 3 days. On further elicitation the person gave history of swelling in right anterior triangle of neck for past 3yrs. On examination of the neck there was diffuse swelling covering the entire anterior part of neck and no other anatomical structures could be made out clinically. Diagnosed as Cellulitis of neck. Blood investigations showed increased total counts. USG neck revealed subcutaneous oedema and solitary nodule of size 5.1 x 4.9 x 6.4 cm in the right lobe of thyroid. Patient was treated with Intravenous antibiotics for 1 week and after remission of cellulitis, patient was evaluated for thyroid swelling. Thyroid function test was done which was normal. FNAC showed cystic thyroid disease. Serum calcium was 13.06mg/dl, serum creatinine was 1.66mg/dl and serum parathormone was 656.9pg/ml which were significantly elevated, hence primary hyperparathyroidism was diagnosed and sestamibi scan with technetium 99 done revealed increased tracer uptake in the right lobe of thyroid gland probably a intrathroidal parathyroid adenoma (picture 1).

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Discussion:
The prevalence of primary hyperparathyroidism is 1:1000. The risk of developing the disease increases with a peak incidence between 50 and 60 years. Most of the symptoms and complications are a result of hypercalcemia. Causes of primary hyperparathyroidism are parathyroid adenoma, parathyroid hyperplasia and parathyroid carcinoma. In 1989, Coakley reported on the use of 99mTc sestamibi (MIBI) for parathyroid imaging. Due to superior image quality, more favorable dosimetry, and improved accuracy, 99mTc sestamibi has been used prevalently in parathyroid imaging[5,6]. Surgery is the main modality of treatment. The criteria for surgery in patients with primary hyperparathyroidism suggested by National Institutes of Health (NIH) consensus meeting in 1990 include: 1) a serum calcium more than 1–1.6° mg/dl above the upper limits of normal; 2) age below 50 years; 3) osteoporosis (Z-score <-2.0 forearm); 4) decreased renal function (by more than 30%); 5) 24-hour urine calcium >400° mg, 6) nephrolithiasis; 7) severe psychoneurological problems, or 8) a history of life-threatening hypercalcemia[7].

Conclusion: Cellulitis of the neck due to primary hyperparathyroidism is rarest of the rare clinical presentation. Strict vigilance of parathyroid adenoma should be kept in mind if serum calcium levels are increased in presence of neck swelling.

References: