ORIGINAL RESEARCH PAPER

Volume-7 | Issue-8 | August-2018 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

CASE REPORT- MEDULLARY THYROID CARCINOMA WITH DIARRHOEA

Medicine

Varun Sodhi Intern, Department of Medicine, Punjab Institute of Medical Sciences, Jalandhar.

Anika Chhabra* Medical Officer, S.G.L hospital, Jalandhar. *Corresponding Author

Archana Dutta Consultant, Department of Medicine, Punjab Institute of Medical Sciences, Jalandhar.

Tinaz Haimy Bhutta Intern, Department of Social and Preventive Medicine, Adesh University of Medical Sciences and Reseach, Bathinda.

ABSTRACT

INTRODUCTION: Medullary thyroid cancer(MTC) is a type of thyroid cancer of neuroendocrine origin. It occurs in both heritable and sporadic forms. It originates from the parafollicular "C Cells" secreting Calcitonin and Carcino embryonic antigen(CEA). Conventional radiographic techniques such as CT SCAN, MRI, AND Ultrasonography are used to detect recurrence following total thyroidectomy. However metastatic disease frequently escapes from above modaltits even in the presence of increased serum calcitonin levels

CASE REPORT:- We report a case of Medullary Thyroid Carcinoma in 24 year old male who under treatment of MTC with metastasis came with c/c of diarrhoea.

CONCLUSION:- Diarrhoea in MTC is though very rare do occur in some patients but what causes the diarrhoea is not clearl understood.

KEYWORDS

Thyroid Cancer, Medullary, Calcitonin, Cea, Diarrhoea, Metastasis, Liver

INTRODUCTION:-

MTC which comprises about 5-10% of all Thyroid cancers and is very aggressive in nature. MTC was first described by Jaquet in the German Literature as 'malignant goiter with amyloid'(1)It arises from parafolliclar C cells of the thyroid which originates in the neural crest. C cells are named due to their calcitonin hormone secretion and account for upto 1% of thyroid cells. These cells are found throughout the thyroid gland but are mostly located in the posterior upper third of the lateral lobes, where the majority of MTCs are found. C cells also produce CEA. The disease progress from C cell hyperplasia(CCH) with increased calcitonin levels to microscopically invasve to grossly evident carcinoma. Like other neuroendocrine tumours, MTC can cause increased levels of variety of products such as calcitonin, CEA, serotonin and chromogranin A causing symptoms such as diarrhoea, flushing etc in patients with metastatic disease. Usually calcitonin levels predominates and are usually used to confirm the diagnosis, indicate treatment efficacy and monitor the disease for recurrence or progression.

MTC develops sporadically in 60-75% of the patients or as a result of germline mutation of RET proto-oncogene as seen in MEN 2A and 2B. Patients with RET proto-oncogene mutation are offered prophylactically thyroidectomy with lymphadenectomy or on discovery of the mutation. Patient with sporadic cases are offered total thyroidectomy and at minimum central neck dissection upon histologic confirmation of disease(2). Usually 15 year survival in 85% of the patients is seen but due to its tendency to spread to local lymph nodes, surgical cure becomes difficult(3). Even with total thyroidectomy with lymphadenectomy calcitonin levels normalizes in 40% of the patients(2). Even with normalization of the calcitonin levels, approx 9% of the patients will have recurrence of the disease(4). The time of calcitonin assay after operation is important because regression of the calcitonin levels is slow and it may take several months to reach to normal/near normal levels. Those with near normal levels of calcitonin can be followed but those with levels above 100ng/ml after six to seven months should be evaluated for tumour, either residual or metastasis(5).

CASE PRESENTATION:-

24 year old boy came to the hospital with c/c of diarrhoea and weight loss since past 2 months. Diarrhea was sudden in onset, watery and mucoid in consistency and 6-7 episodes/day were reported. Stools were non-foul smelling and did not contain any blood. Episodes were not accompanied by any abdominal pain. No h/o vomiting, fever, cough, exposure or contact history to any contanimated food. Patient reported weight loss of about 15kg in past 2 months. Patient reports no change in the dietary habits.

Patient is a known case of total thyroidectomy with b/l modified radical neck dissection done 6 years ago. History of patient dates back to 7 years when patient noticed a swelling in his neck for which patient was taken to the nearby hospital and was discharged with antibiotics. Later after 1 year patient suddenly started having difficulty breathing for which patient was again taken to the nearby hospital. CT scan was done after which suspicion of thyroid cancer was made. Patient then underwent biopsy which was evident for MTC. As a treatment patient opted for total thyroidectomy with B/L modified radical neck dissection which was successfully done and patient was put on Levothyroxine after the surgery.

After 3 years patient again had a complaint of significant weight loss. Work up was done which showed elevated calcitonin levels and CT scan was done. CT scan did not show any marked findings due to which further investigation with Ga-DOTONAC-SSTR was done which showed tumour extending from thyroid bed to superior mediastnum with right supraclavicular lymph node metastasis.

Radiotherapy was given radiotherapy as surgery was C/I. Patient was started on capecitabine and was monitored with calcitonin levels which came to near normal levels in 7-8 months.

On physical examination, he was concious, cooperative, well oriented to time place and person. His body temp was 98.5F, Blood Pressure-110/70mmhg, Pulse 76/min, respiratory rate 20/min, SpO2 95%. His current body weght is 47Kg. Pallor was seen. No cyanosis, clubbing, icterus, lymphadenopathy, oedema.

Patient was admitted in the hospital and was treated with antibiotics and anti-diarrhoeal agents for a period of 5 days to which patient did not respond. Due to failure to progress, CT abdomen was ordered which showed SOL in the liver. Further ultrasound guided FNAC was done which showed malignant cells. For further workup CEA levels were done which were markedlt increased 3026ng/ml. Due to severe diarrhoea ,increased CEA and mets to the liver, colonic pathology was a query for which colonoscopy was done. Colonoscopy showed diffuse increased vascularity with erosions and mucosal friability with ooze at hepatic flexure , ascending colon and caecum. Multiple biopsies were taken which showed normal histopathological examination.

Finally DOTA-NOC-PET CT and calcitonin was done which showed markedly increased levels of calcitonin and increase in the somatostatin receptors in the body. Patient was prescribed sorafineb and was refeered to the higher centre for further management.

DISCUSSION:-

Metastasis to liver is most commonly due to colon cancer as the venous supply of the colon goes directly to the portal system. Even though metastasis to liver from MTC also occurs but is less common than

colon. In both the diseases CEA levels may be increased but Calcitonin levels are increased only in MTC and level of calcitonin correlate with the disease. Diarrhoea is said to be caused due to increased level of calcitonin. Calcitonin may induce secretory diarrhoea may be due to direct activation of calcitonin receptors in intestinal epitheial cells which induces Chloride secretion(6). 2 different studies by JC Rambaud in 1988 and by TM Cox in 1979 showed that calcitonin has no direct effect causing diarrhoea. Diarrhoea was due to decreased absorption in the colon secondary to motor disturbance. Even though there is direct correlation of calcitonin with diarrhoea is made as when the calcitonin levels rises diarrhoea occurs and when the calcitonin levels normalizes diarrhea stops. Lam I in 2012 publishsed a similar case report of patient with diarrhoea for about 1 year(7). In 1988 JC Rambaud published case report of the patient with 8 years of diarrhoea(8) . In 1979 TM COX published a case of the patient with 8 months of diarrhoea(9). So what causes the diarrhoea is still not clear but calcitonin levels are surely the marker of disease on which we can rely on. Till date only 3-4 cases of MTC presenting with diarrhoea are reported best to our knowledge.

CONCLUSION:-

MTC can also present with c/c as diarrhoea. This symptom though not that alarming should be taken seriously and should be invesitgated thoroughly. When patient with past h/o Medullary Thyroid Cancer presents with diarrhoea, reccurence or metastasis should be ruled out if the diarrhoea persist for longer duration.

References

1. Jaquet AJ. Eln Fall von metastasierenden amyloidtumoren Virchows Arch. 1906; 185:251-257
2. Kloos RT. Eng C, Evans DB, et al. Medullary Thyroid Cancer: Management Guidelines of the American Thyroid Association. Thyroid.2009;19(6):565-612.[PubMed]
3. Rendl G, Manzl M, Hitzl W, et al. Long term prognosis of Medullary Thyroid Carcinoma. Clin Endocrnol (oxf) 2008:69(3):497-505.[PubMed]
4. Modigliani E, Cohen R, Campos J, et al. Prognostic Factors for Survival and for Biochemical Cure in Medullary Thyroid Carcinoma. Results in 899 Patients. Clinical Endocrinology. 1998;48:265-273.[PubMed]
5. Callender DL, Sherman SI, Gagel RF, Burgess MA, Goepfert H. Cancer of thyroid. In: Meyers EN Suen JY, editor. Cancer of head and neck. 3rd edition Philladelphia; WB Saunders;1996. 405-515
6. Liu H, Singla A, Ao M, et al. Calcitonin receptor mediated CFTR activation in human intestinal spithelial cells. J cell Mol Med 2011; 15 : 2697-2705.
7. I. Lam, H. Chaing, C. Wang, C. Chang. 15th international and 14th european congress of endocrinology. Endocrine abstract(2012) 29 P868.
8. JC RAMBAUD, R JIAN, B FLOURIE, M HAUTEFEUILLE, M SAMERON, F THUILLIER, A RUSKONE, C FLORENT, F CHAOUI, J-J BERNIER. GUT, 1988, 29, Pg 537-543.
9. TM Cox, Elizaeth A Fagen, Carmel J Hillyard, DJ Allison, VS Chadwick. GUT, 1979,20, Pg 629-633.