Case report

A Case of Adrenal Carcinoma

***Rahman SI[1], Huq NA[2], Agarwala BK[3], Pathan MF[4]**

Abstract :

Adrenal carcinoma is rare, occurring with a frequency of 1 to 2 per million populations per year. The tumor occurs in two age peaks; one peak occurring at less than 5 years of age and the second peak, in the 4th and 5th decades. Women are slightly more affected than men as shown in most studies. Here we report a case of adrenocortical carcinoma. A 52 years old diabetic and hypertensive lady hailing from Rangpur presented with gradually increasing bilateral leg oedema which was associated with puffiness of face. On query she gave H/O recent onset hirsutism and also noticed of clitoromegaly. On examination patient was anemic, edematous and moon like face.Increased thick terminal hair on chin, sideburn and upper lip without any pigmentation and striae. There is clitoromegaly on systemic examination. After evaluation she was diagnosed as left adrenal carcinoma secreting multiple hormone like cortisol, aldosterone,epinephrine and androgen, which metastasis to liver and inferior venacava with left renal vein thrombosis. As this case was inoperable,that's why conservative management was given along with insulin for blood sugar control and LMWH followed by warfarin. Also adviced for regular follow up on endocrine OPD of BIRDEM general hospital.

Keywords: Clitoromegaly, Hirsutism , Hypokalemia, Hypertension.

Received: 12.04.2021, **Accepted:** 17.05.2021. ***Ad-din Medical Journal. 2021; 2 (2) : 27-29***

Introduction

The median age for the diagnosis of adrenocortical carcinoma is 36 years, but cases from the first year of life to the eighth decade have been reported1. Adrenal carcinoma associated with excessive production of glucocorticoids, mineralocorticoids, androgens and estrogens with the clinical manifestations of Cushing's syndrome, hyperaldosteronism, virilization and feminization have been reported. Infants and children with adrenal cortical carcinoma can present with precocious puberty[2,3,4].Regardless of the hormone secretory product or the type of clinical syndrome, the urinary 17- ketosteroids are invariably elevated5. Dehydroepiandrosterone (DHEA) usually contributes most to the elevated 17-ketosteroids. The measurement of DHEA in plasma can be used as a marker for adrenal cortical tumors as well as an indicator of the therapeutic efficacy of various treatment regimens6. Although most cases of adrenal carcinoma are rapidly fatal, there have been patients who survived decades with large tumors[7].The present report documents the clinicaland laboratory findings of a woman who presented at age 52 years with evidence of Cushing's syndrome.

1. Dr. Shahin Ibn Rahman, Assistant Registrar, Department of Endocrinology, Dhaka National Medical Institute Hospital. Dhaka.

2. Dr. Nausher Azimul Huq, Associate Professor & Head, Department of Endocrinology, Dhaka National Medical College, Dhaka.

3. Dr. Bimol Kumar agarwala, Associate Professor (C C), Department of Endocrinology, Dhaka National Medical College, Dhaka.

4. Prof. Dr. Md Faruqe Pathan, Professor of Endocrinology, BIRDEM General Hospital, Dhaka.

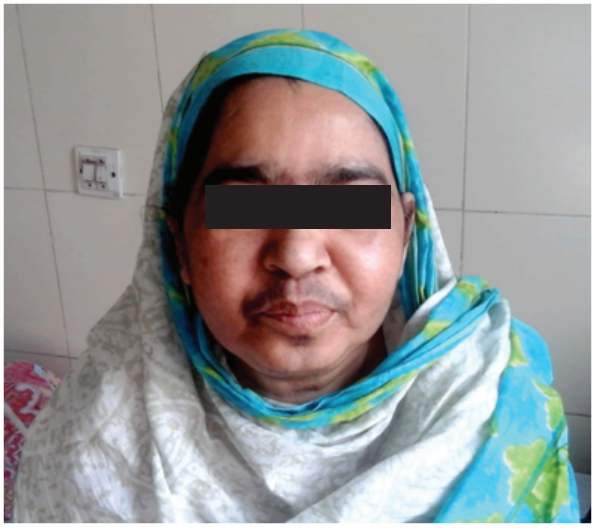
***Correspondence:** dr.shahin2014@gmail.com.

Case details

Mrs. X 52 year's old diabetic & hypertensive lady hailing from Rangpur admitted in BIRDEM general hospital on 13th November 2017 with bilateral leg swelling which was gradually increasing and associated with puffiness of face. She also complains of anorexia, nausea and generalized weakness without any weight loss. On query she gave H/O recent onset hirsutism and clitoromegaly. On general examination, she looks ill, moon facies and plethoric. She was anemic and bilateral pitting oedema was present. Her pulse was 84 b/m, BP 160/100 mm of Hg and BMI 28 Kg/m2.On systemic examination reveals clitoromegaly.Her abdominal imaging (Both USG & CT) shows

large(10.30 x 7.6) left adrenal carcinoma with thrombi in left renal vein and IVCalso multiple secondaries in liver. After that her hormonal profile was done and reveals high serum catecholamine with increased basal cortisol and overnight DST was not suppressed. Increased serum testosterone (6.25ngm/ml), aldosterone(201 pg/ml), DHEAS (1500ugm/dl) and low FSH level(0.05mIU/ml), TSH (0.27uIU/ml) with normal brain imaging. On routine test there was hypokalemia with altered liver function test.

We took consultation from Urologist and Oncologist; they stated that this case is an inoperable state, that's why we gave her conservative management like adequate antihypertensive including spironolactone, insulin for sugar control and LMWH followed by warfarin for thrombosis in left renal vein.



Discussion:

Adrenal carcinoma is rare, occurring with a frequency of 1 to 2 per million populations per year[8]. The tumor occurs in two age peaks; one peak occurring at less than 5 years of age and the second peak, in the 4th and 5th decades. Women are slightly more affected than men as shown in most studies[9,10,11]. Adrenal carcinoma can be classified as functional and nonfunctional; approximately 60% of cases have functional tumors. The functional tumors are encountered more frequently in women and children, while the nonfunctional tumors tend to occur predominantly in older men[11]. The most common hormonal presentation in patients with adrenal carcinoma is Cushing syndrome, followed by Cushing syndrome with virilisation, and virilisation alone. Feminisation and Conn syndrome alone are rare presentations of this tumor[12]. CT is the imaging of choice for initial study in patients suspected of adrenal carcinomas. Abdominal CT provides information about the tumor's resectability, renal function, and the presence of metastasis in the abdomen. However, CT is less sensitive than magnetic resonance imaging (MRI) in evaluating tumor extension into the liver, kidney, and IVC. On CT, adrenal carcinomas are typically large, lobulated, and inhomogeneous due to hemorrhage and necrosis. Calcifications are seen in 30% of cases[10,11,12]. On MRI, the tumors appear heterogeneous on both T1- and T2-weighted images owing to the presence of hemorrhage and necrosis[13]. Surgery is the most effective treatment of adrenal carcinoma. The chemotherapeutic agent often used to treat adrenal carcinoma in both primary therapy and adjuvant therapy settings is mitotane[9]. However, prognosis of patients with adrenal carcinomas is poor because the tumors are often detected at an advanced stage.

Conclusion

In hypertension with hypokalemia we should always exclude adrenal cause. Hirsutism even in post menopausal woman requires thorough evaluation to exclude adrenal pathology.

References

1. Hutter AM. and Karyhoe DE. Adrenal cortical carcinoma: clinical features of 138 patients. Am. J. Med. 41 572-580. 1966.

2. Bacon GE. and Lowery GH. Feminizing adrenal

tumor in a six year old boy. J. Clin. Endocrinol. 25:1403-1406, 1965.

3. Burr IM. GrahamT. Sullivan J. et al. A testosterone secreting tumor of the adrenal producing virilization of a female infant. Lancef 2:643-644, 1973.

4. Hayles AB. Hahn HB. Sprague RG. et al. Hormone secreting tumors of the adrenal cortex in children. Pediatrics 37:19-25, 1966.

5. David R. August G. and Gandy HM. Virilizing adrenal tumor with borderline elevation of urinary 17- ketosteroid. Pediatrics 42:139-148, 1968.

6. Mortimer JC. Rudd BT. and Butt, WR. A virilizing adrenal tumor in a prepubertal boy. 3. Clin. Endocrinol. 24:842, 1964.

7. Lipsett MB. Hertz R. Ross GT. Chemical and pathological aspects of adrenocortical carcinoma. Am. 3. Med. 35:374-383, 1963.

8. Third national cancer survey: incidence data. Natl Cancer Inst Monogr 1975 ;(41):i-x, 1-454.

9. Schulick RD, Brennan MF. Adrenocortical carcinoma. World J Urol 1999; 17(1):26-34.

10. Ng L, Libertino JM. Adrenocortical carcinoma: diagnosis, evaluation and treatment. J Urol 2003; 169(1):5-11.

11. Bodie B, Novick AC, Pontes JE, et al. The Cleveland Clinic experience with adrenal cortical carcinoma. J Urol 1989; 141(2):257-60.

12. Korobkin M, Francis IR. Imaging of adrenal masses. Urol Clin North Am 1997; 24(3):603-22.

13. Elsayes KM, Mukundan G, Narra VR, et al. Adrenal masses: MR imaging features with pathologic correlation. Radiographics 2004; 24 Suppl 1:S73-86.