International Journal of Current Advanced Research
ISSN: O: 2319-6475, ISSN: P: 2319-6505, Impact Factor: 6.614
Available Online at www.journalijcar.org
Volume 8; Issue 06 (D); June 2019; Page No.19238-19240
DOI: http://dx.doi.org/10.24327/ijcar.2019.19240.3701

Research Article

AN ARRAY OF ADRENAL MASSES – CASE SERIES

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A R T I C L E I N F O

Article History:
Received 06th March, 2019
Received in revised form 14th April, 2019
Accepted 23rd May, 2019
Published online 28th June, 2019

Key words:

Adrenal Incidentaloma, Pheochromocytoma, Cushings Syndrome

A B S T R A C T

Retrospective study analysing the incidental adrenal masses in 10 patients from jan 2016-march 2018. All the patient demographics like age, imaging features, functional status and histological results are analysed. Out of 10 patients 4 are functional tumors and 6 are non-functional tumors. Histopathologically 2 patients have pheochromocytoma, 3 patients have myelolipoma, one with functioning adrenal adenoma with cushing syndrome, one patient with non-functioning adenoma and three were diagnosed to have adrenocortical carcinoma. We conclude that from our study all incidental found adrenal masses should be evaluated in detail for proper management.

INTRODUCTION

An adrenal incidentaloma (AI) is a previously unsuspected adrenal mass discovered on an imaging study performed for an unrelated reason. Current estimates of the prevalence of AI ranges in various studies: 2.3% at autopsy, 4% in retrospective CT series, and 5.8% in oncological studies [1] .This prevalence increases with age, up to 10% at an age of 70 or above[2].Only malignant and functional adrenal masses (excess production of cortisol, aldosterone, and catacholamines) needs active treatment; thus, it is mandatory to identify such patients. According to current endocrine and surgical guidelines, every patient is adhered to the same expensive cascade of tests and procedures.It is important to identify all adrenal incidentalomas that are malignant and/or cause hormonal hyperfunction, but at the same time avoiding patients from unnecessary workup[3].

Aim

The aim of the study is to investigate the clinical and endocrinological characteristics of patients with adrenal incidentaloma in a tertiary care centre.

MATERIALS AND METHODS

- ✓ 10 patients with incidental adrenal mass who were admitted and managed in urology department from January 2016 – March 2018 were retrospectively studied.
- ✓ Blood investigations – complete hemogram, renal function test, serum catecholamines, serum cortisol,
- ✓ Urine 24hrs catecholamines
- ✓ Imaging – ultrasound abdomen, CT abdomen plain and contrast, MRI
- ✓ Post operative histopathology reports

RESULTS

Age distribution of our series of patients was wide, and the median age at visits was 53 years. All cases are unilateral. Out of 10 patients, 6 patients diagnosed to have adrenal incidentaloma on master health check up, non specific abdominal pain in 3 patients, low back ache in 1 patient (figure2). Hypertension in 5 patients(50%), diabetes mellitus 4 patients(40%), dyslipidemia in 6 patients(60%), coronary artery disease in 2 patients(20%) (Figure 1).Size of the tumor is < 5cm in 6 patients, >5cm in 4 patients.Serum cortisol increased in 2 patients. Urinary catecholamines increased in 2 patients.BMI > 28kg/m^2 seen in 3 patients .Regarding the functionality of masses, we observed that 6 (60%) patients had non-functional tumors (figure3). Our series showed that the highest proportion of pheochromocytomas and cushing syndrome were observed in 3-5 cm group.

Regarding the malignancy of the masses, 3 of the 10 operated patients were confirmed to have malignant tumors by a final histological analysis.All three malignancy are adrenocortical carcinoma out of them one is functional and two are non-functional.

Three myelolipomas with one cortical adenoma, two pheochromocytoma, one functioning cortical adenoma and three adrenocortical carcinoma (figure4). Our case series did not report significant gender differences. In the >6cm group,

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the frequency of malignancy increased sharply.Overall, cortical adenomas were the smallest lesions, whereas malignant tumors were the largest lesions.

DISCUSSION

AIs are being detected with an increasing frequency due to the widespread increase in cross-sectional imaging and is gradually emerging as a common clinical problem[4]. Eventhough patients presented with no clinical symptoms, three tumors found to be functional and this suggest radiological imaging with functional workup of all adrenal incidentalomas irrespective of size. In the present study, we found that the frequency of AI in both sides was comparable.No bilateral lesions were detected in our case series.

Advanced investigations in the elderly maybe have contributed to the high detection rate in this age group[5]. The role of adrenal biopsy is generally reserved for differentiating between benign adrenal tissue and metastatic disease[6]. Biopsy is most commonly used in cases of known extra-adrenal malignancies. Adrenal biopsy should be used selectively and it is imperative that a biochemical assessment be performed before this procedure to avoid a potential hypertensive crisis. Among the functional tumors, pheochromocytomas were the most frequently observed. Mass size was of great value in distinguishing malignant and benign tumors[8].

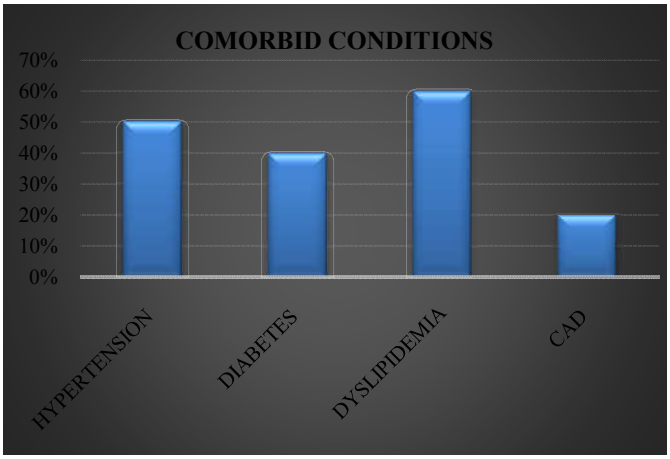

Figure 1 Comorbid Conditions in Adrenal Incidentalomas

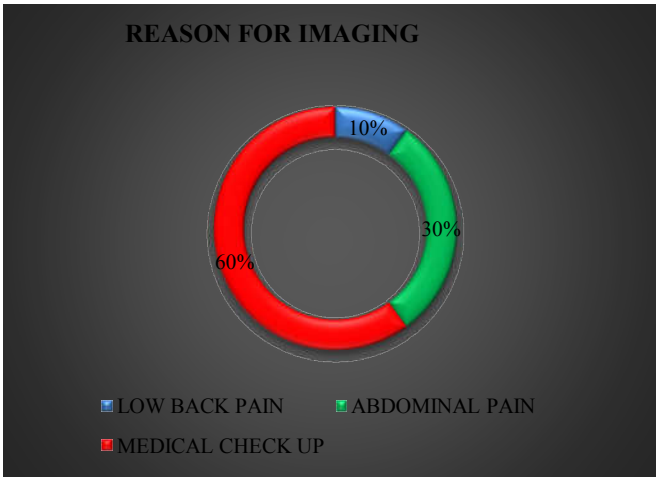

Figure 2 Clinical Presentation

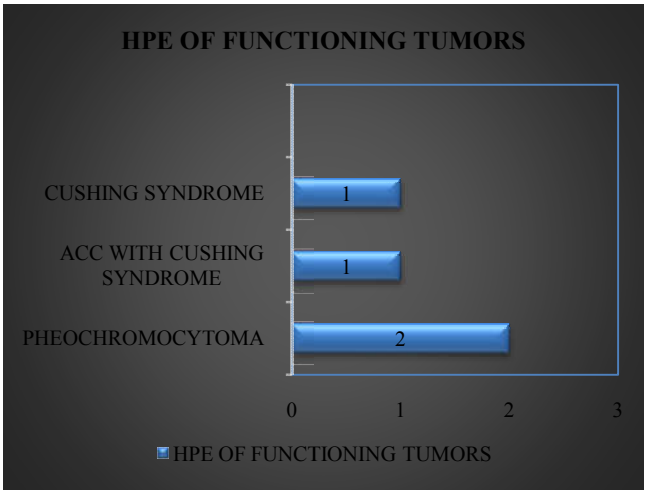

Figure 3 Post-Operative Biopsy

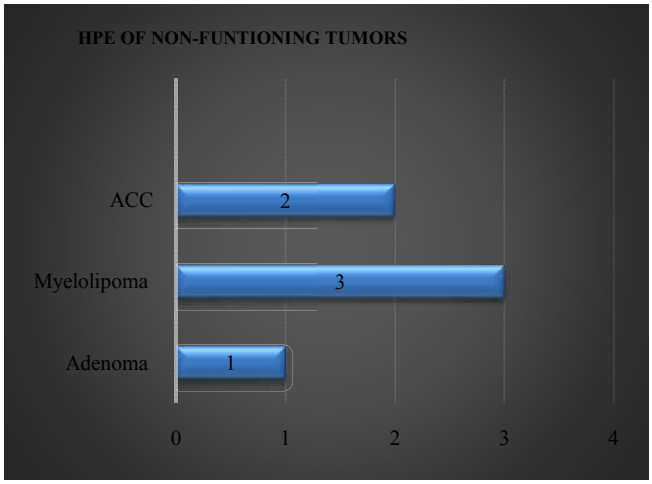

Figure 4 Non-Functioning Tumors Biopsy

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How to cite this article:

T Senthil Kumar and Sai Venkat Manoj. T (2019) 'An Array of Adrenal Masses – Case Series', *International Journal of Current Advanced Research,* 08(06), pp. 19238-19240. DOI: http://dx.doi.org/10.24327/ijcar.2019.19240.3701

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