OPEN ACCESS Freely available online

Journal of Tumor Research

ISSN: 2684-1258

Perspective

Incidental Adrenal Masses: Diagnostic Challenges and Management Strategies in Older Adults

Glazer Corwin*

Department of Radiology, University of California, Davis, Sacramento, USA

DESCRIPTION

Incidental adrenal masses are increasingly recognized in clinical practice, particularly in individuals over the age of 60. Studies show that more than 6% of people in this age group have adrenal incidentalomas, which are typically found during imaging for unrelated conditions. These masses are most often unilateral and hormonally silent, presenting as a common, benign finding. However, in recent years, the detection rate of these tumors has risen, partly due to the increased use of advanced imaging techniques such as Computed Tomography (CT) and Magnetic Resonance Imaging (MRI). While the vast majority of adrenal incidentalomas are benign, the discovery of these masses, especially when bilateral, can present diagnostic and management challenges.

Classification of adrenal masses

Adrenal masses discovered incidentally can be broadly categorized into several types, with the majority being non-functional and benign tumors of adrenocortical origin. The most common benign lesions include adrenocortical adenomas, which are typically hormonally inactive. However, these masses can also include hormone-secreting adrenocortical adenomas, which may present with clinical signs of excess hormone production, such as Cushing's syndrome or primary aldosteronism. Another type of benign adrenal tumor is the myelolipoma, a rare combination of adipose tissue and hematopoietic elements that generally does not cause symptoms. In some cases, pheochromocytomas, which secrete catecholamine, may also present as incidental findings, although these are less common. Additionally, adrenal incidentalomas can be malignant, with Adrenocortical Carcinomas (ACC) and metastatic disease also falling under this category.

While most adrenal incidentalomas are benign and asymptomatic, further diagnostic workup is often necessary to rule out malignancy and assess hormonal activity. Imaging characteristics, such as size, density on CT scans and contrast enhancement patterns, help differentiate between benign and malignant lesions. Hormonal testing is also important, as functional tumors may lead to significant clinical symptoms, particularly in cases of adrenal adenomas secreting cortisol or aldosterone.

Bilateral adrenal masses

The discovery of bilateral adrenal masses is much less common than unilateral masses and the differential diagnosis for bilateral adrenal masses is broader. In the case of unilateral masses, the most likely diagnoses are benign adrenocortical adenomas, pheochromocytomas or myelolipomas. However, when the masses are bilateral, the possibility of malignancy or tumor susceptibility syndromes increases significantly. Bilateral adrenal masses are often associated with conditions such as metastases from other malignancies (e.g., lung cancer, breast cancer), lymphoma or genetic syndromes like Li-Fraumeni syndrome or Beckwith-Wiedemann syndrome. Moreover, bilateral adrenal masses are more likely to be associated with hormonal disturbances. One of the most common hormonal disorders seen in patients with bilateral adrenal masses is Mild Autonomous Cortisol Secretion (MACS). MACS is a form of subclinical hypercortisolism in which the adrenal glands produce excess cortisol without the typical clinical manifestations of Cushing's syndrome. Although patients with MACS may not present with overt symptoms, the excess cortisol production can still have significant long-term effects, including increased risks for cardiovascular and metabolic diseases, such as hypertension, diabetes and osteoporosis.

In some cases, the presence of MACS in patients with bilateral adrenal masses may necessitate surgical intervention. While surgery is not always required for benign unilateral adrenal tumors, bilateral adrenal masses with hormonal secretion or signs of malignancy may cause more aggressive approach, including adrenalectomy or other therapies. The decision to proceed with surgery depends on the size of the masses, their appearance on imaging studies, the patient's clinical presentation and the potential for malignancy.

Correspondence to: Glazer Corwin, Department of Radiology, University of California, Davis, Sacramento, USA, E-mail: crowin@gla.zer.com

Received: 29-Nov-2024, Manuscript No. JTDR-24-36409; **Editor assigned:** 02-Dec-2024, PreQC No. JTDR-24-36409 (PQ); **Reviewed:** 16-Dec-2024, QC No. JTDR-24-36409; **Revised:** 23-Dec-2024, Manuscript No. JTDR-24-36409 (R); **Published:** 30-Dec-2024, DOI: 10.35248/2684-1258.24.10.243

Citation: Corwin G (2024). Incidental Adrenal Masses: Diagnostic Challenges and Management Strategies in Older Adults. J Tumor Res. 10:243.

Copyright: © 2024 Corwin G. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

Management and surveillance

For patients with incidental unilateral adrenal masses, management often involves surveillance with repeat imaging and hormonal evaluation. If the mass is small, non-functional and asymptomatic, the patient may not require any immediate intervention. However, if the mass is large, functional or shows signs of malignancy, further evaluation, including biopsy or surgical removal, may be necessary.

In contrast, the management of bilateral adrenal masses is more complex. Given the increased likelihood of malignancy and the association with hormonal imbalances such as MACS, these patients typically require more complete evaluation. Hormonal assays, including measurement of cortisol and aldosterone levels, as well as imaging studies to assess for signs of malignancy, are important in guiding management. If the masses are found to be hormone-secreting or malignant, surgical intervention may be required to alleviate symptoms or prevent disease progression.

CONCLUSION

Adrenal incidentalomas are common findings in individuals over the age of 60 and most of these masses are benign and hormonally silent. However, the discovery of bilateral adrenal masses presents a more complex clinical scenario, often involving a differential diagnosis that includes malignancy and tumor susceptibility syndromes. The presence of Mild Autonomous Cortisol Secretion (MACS) in patients with bilateral adrenal masses further complicates management, as this condition may increase the risk of cardiovascular and metabolic comorbidities. Early detection and careful monitoring through imaging and hormonal testing are essential to distinguish between benign and malignant lesions and in some cases, surgical intervention may be assurance. Given the growing incidence of adrenal incidentalomas, a detailed approach to diagnosis and management is important in ensuring optimal outcomes for patients.