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AME position statement on adrenal incidentaloma.

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(Article begins on next page)

Endocrinology, Sant'Andrea Hospital, Department of Clinical and Molecular
Medicine, Faculty of Medicine and Psychology "Sapienza" University of Rome;

U.O. of Endocrinology, "Sacro Cuore –
Calabria" Hospital, Negrar –

Evolutionary Age Endocrinology Unit, "Cervello" Hospital, Palermo, Italy

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show uptake of the tracer. These exceptional ACCs are usually associated with overt Cushing's syndrome or

possibility of overt Cushing (6, 14, 17). However, physicians who are not familiar with Cushing's

QUESTIONS

1. What is the diagnostic accuracy of the various biochemical tests used to detect secretory activity of adrenal incidentalomas?

According to the Endocrine Society's Clinical Guidelines for Management of Primary

Endocrine Society's Clinical Guidelines (79).

Screening of overt Cushing's syndrome

According to the Endocrine Society's Clinical Guidelines for the diagnosis of Cushing's syndrome

{

A thorough discussion of the diagnostic approach to overt Cushing's syndrome is beyond the scope
ety's Clinical

Evaluation of subclinical Cushing's syndrome

We specifically searched for articles including biochemical tests to screen for subclinical Cushing's

without either clearly defined criteria to qualify for subclinical Cushing's syndrome or clear

Subclinical Cushing's syndrome is the most frequent endocrine dysfunction detected in patients

Cushing's syndrome (14, 96). A major challenge is that Cushing's syndrome includes a spectrum of

Cushing's syndrome is also influenced by clinical experience, since

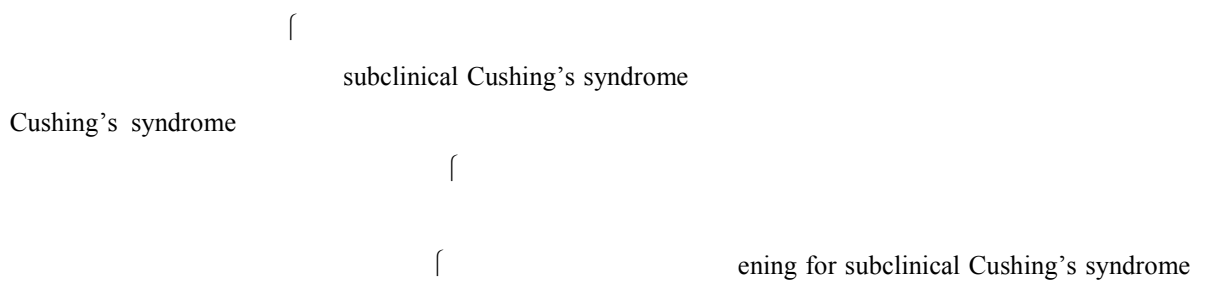
subclinical Cushing's syndrome

overt Cushing's syndrome

as centripetal obesity, when patients with "true" ad

subclinical Cushing's syndrome

subclinical Cushing's syndrome



diagnosis of subclinical Cushing's syndrome is made if the serum cortisol level is > 5.0 [

[not change the probability to have subclinical Cushing's

night salivary cortisol levels do not rule out subclinical Cushing's

included in the screening procedures for subclinical Cushing's syndrome until more data will become available (126

the screening of subclinical Cushing's syndrome remains unsolved. Since the long-term cortisol excess that characterizes subclinical Cushing's syndrome have not been unequivocally defined, a recent

insufficient data linking patient's outcome to the appointed diagnosis. In other terms, the relationships between endocrine findings and patient's phenotype remain to be elucidated (14). This complex issue is emphasized by

cortisol levels after dexamethasone lower than 1.8 µg/dl (50 nmol/l) clearly exclude autonomous (ACTH) cortisol secretion, whereas cortisol levels higher than 5 µg/dl (138 nmol/l) likely indicate subclinical Cushing's syndrome if no interfering conditions are present. Cortisol values after dexamethasone between 1.8 µg/dl (50 nmol/l) and 5 µg/dl (138 nmol/l) may be considered as indeterminate.

when features of Cushing's syndrome are present.

reasoning analogous to that of overt Cushing's syndrome, but had to admit that there is insufficient evidence to suppo

affect patients' hea

ACC are potentially lethal and patient's outcome can be greatly improved by timely adrenalectomy (77, 132). T

QUESTIONS

1. What is the risk of malignant transformation of an adrenal incidentaloma?

Hodgkin's lymphoma

2. What is the risk of evolution towards overt hypersecretion?

The studies that evaluated the risk of progression from subclinical to overt Cushing's syndrome are as a whole that this event occurs rarely, if ever. Development of overt Cushing's syndrome during

3. What are the morbidity and mortality of subclinical Cushing's syndrome?

Notwithstanding uncertainty regarding ascertainment of subclinical Cushing's syndrome, there is no doubt that many

blown Cushing's syndrome, such as arterial hypertension,

oporosis have been described in patients with subclinical Cushing's syndrome in a number of retrospective, or

Cushing's syndrome may be assoc

etween subclinical Cushing's syndrome and

Despite the reported association between subclinical Cushing's syndrome and the metabolic syndrome, which carries an

clinically inapparent adrenal adenomas and subclinical Cushing's syndrome is lacking. The (scarce) available data

4. What management for subclinical Cushing's syndrome?

with subclinical Cushing's syndrome after adrenalectomy (119, 120, 130, 152, 153) (154) compared the outcome of adrenalectomy between 28 patients with overt Cushing's syndrome and 11 patients with subclinical Cushing's syndrome and found quite unexpectedly that hypertension improved more frequently patients with the subclinical syndrome. Tsuiki et al. (155) followed up 20 patients with subclinical Cushing's syndrome

in which 45 patients with subclinical Cushing's syndrome were randomly selected

subclinical Cushing's syndrome should be viewed with caution due to some methodological shortcomings of the study

recommended for treatment of subclinical Cushing's syndrome, which was diagnosed

48 months. Adrenalectomy was recommended to all patients with subclinical Cushing's syndrome and

improved blood pressure and glucose levels in patients with subclinical Cushing's syndrome compared to patients

Cushing's syndrome compared to patients treated conservatively (158).

h subclinical Cushing's syndrome casting

management of subclinical Cushing's syndrome. Limits of the available literature on the outcome of surgical treatment include heterogeneous definition of subclinical Cushing's syndrome, small sample size, ret

management of subclinical Cushing's syndrome and to indicate the superiority of a surgical or a non

younger patients with subclinical Cushing's syndrome who display diseases potentially attributable to cortisol excess

Cushing's syndrome, until further evidence is available regarding the long

5. What surgical technique for adrenalectomy?

There is general consensus that patients with subclinical Cushing's syndrome require postoperative

6. How to perform follow-up?

asses with clear benign features (size ≤ 2 cm and density ≤ 10 HU) is of limited utility.

up (163). Patients with subclinical Cushing's syndrome who do not reach the treatment goals

Reviews in Endocrine & Metabolic Disorders —

British Medical Journal

Journal of Clinical Endocrinology and Metabolism

Endocrine Reviews

inapparent adrenal mass (“Incidentaloma”). *Annals of Internal Medicine*

Endocrine Reviews —

—

Journal of Clinical Endocrinology and Metabolism —

European Journal of Endocrinology

Journal of Endocrinological Investigation

Surgery

—

Journal of Pediatric

Cushing’s syndrome in adrenal incidentaloma. *Clinical Endocrinology* —

Best Practice & Research. Clinical Endocrinology & Metabolism

European Journal of Endocrinology —

of Endocrinology

European Journal

New England Journal of Medicine

—

Clinical Endocrinology —

Radiology —

Surgery

–

Surgery

Surgery

–

Journal of Clinical Oncology

24. Mazzuco TL, Bourdeau I & Lacroix A. Adrenal incidentalomas and subclinical Cushing's
Current Opinion in Endocrinology, Diabetes, and Obesity

Journal of Clinical Endocrinology and Metabolism

–

American

Journal of Roentgenology

–

Journal of Urology

–

Radiology

–

International Urology and Nephrology

–

, Porpiglia F, Destefanis P, Fiori C, Ali` A, Terzolo M,. Osella G & Angeli A.
Urology

–

Radiology

–

–

Radiology

–

American Journal of Roentgenology

–

–

Radiology

–

Radiology

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Radiology

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Radiographics

Radiology

American

Journal of Roentgenology

American Journal of Roentgenology

American

Journal of Roentgenology –

American

Journal of Roentgenology

American Journal of

Roentgenology –

Radiology –

Radiology

–

American

Journal of Roentgenology –

Radiology –

Radiology

European Journal of Endocrinology –

131) “NP 59”: concise communication. *Journal of Nuclear Medicine*

–

Journal of Nuclear Medicine

Ann Intern Med

Journal

of Nuclear Medicine

Journal of Clinical

Endocrinology and Metabolism

Radiology

American Journal of Roentgenology

American Journal of Roentgenology —

Journal of Nuclear Medicine —

European Journal of Endocrinology —

Endocrinology and Metabolism *Journal of Clinical*

World J Surg —

Eur J Nucl Med Mol Imaging —

Journal of Nuclear Medicine —

Academic Radiology —

Radiology

Journal of Nuclear Medicine —

Journal of Clinical Endocrinology and Metabolism —

Metabolism *Journal of Clinical Endocrinology and*

American Journal of Roentgenology —

Radiology —

Clinical Radiology

—

Surgery

Journal of Roentgenology — *American*

J Am Coll Radiol

Radiology

Journal of the American Medical Association

Journal of Clinical Endocrinology and Metabolism

Journal of Clinical Endocrinology and Metabolism

Lancet

& Metabolism

Nature Clinical Practice. Endocrinology

Journal of Clinical Endocrinology and Metabolism

Endocrine

Practice

Clinical Endocrinology

Clinical Endocrinology

Endocrinology and Metabolism Clinics of North America

Journal of Clinical Endocrinology and Metabolism

Endocrinologist

Journal of Clinical Endocrinology and Metabolism

Clinical Chemistry

The diagnosis of Cushing's syndrome: an Endocrine Society Clinical Practice Guideline. *Journal of Clinical Endocrinology and Metabolism*

Nieman LK, Sonino N, Vance ML, Giustina A & Boscaro M. Diagnosis and complications of Cushing's syndrome: A consensus statement. *Journal of Clinical Endocrinology and Metabolism*

Annals of Internal Medicine

methasone suppression test to screen for Cushing's syndrome
Annals of Clinical Biochemistry

93. Newell Price J, Bertagna X, Grossman AB & Nieman LK. Cushing's syndrome. *Lancet*

line tests for the diagnosis of Cushing's syndrome: assessment in a large series. *Journal of Clinical Endocrinology and Metabolism*

Montori VM. Accuracy of diagnostic tests for Cushing's syndrome: a systematic review and *Journal of Clinical Endocrinology and Metabolism*

Endocrinology and Metabolism Clinics of North America

European Journal of Endocrinology –

adrenal Cushing's syndrome. *Endocrine Reviews*

Surgery

Journal of Clinical Endocrinology and Metabolism

Archives of Surgery

Journal of Clinical Endocrinology and Metabolism

Clinical Endocrinology

Journal of Endocrinology *European*

Clinical Endocrinology

World Journal of Surgery

Metabolism

Zeluska AA, Rosłonowska E, Słowinska

Clinical Endocrinology

Clinical Endocrinology

Journal of Clinical Endocrinology and Metabolism

Surgery

Hormone and

Metabolic Research

. Endocrine Journal

Journal of Endocrinological Investigation

European Journal of Endocrinology

European Journal of Endocrinology

Journal of Internal Medicine

European Journal of Endocrinology

Journal of Clinical Endocrinology and Metabolism

Endocrine Journal

Clinical Endocrinology

Endocrine

Journal.

European

Journal of Endocrinology

Annales d'Endocrinologie

dexamethasone suppression test for screening of subclinical Cushing's syndrome in patients with
Journal of Endocrinological Investigation

Endocrine Journal

European Journal of Endocrinology

Journal of Clinical Endocrinology and Metabolism

Journal of Clinical Endocrinology and Metabolism

130. Terzolo M, Osella G, Ali

Endocrinology and Metabolism

–

Journal of Clinical

–

Endocrinology

European Journal of

Journal

of Clinical Endocrinology and Metabolism

Annals of the New York Academy of Sciences

Hormone and Metabolic Research

European Journal

of Endocrinology

British Journal of Cancer

Journal of

Endocrinological Investigation

–

Journal of Clinical Endocrinology and Metabolism

Journal of Clinical Endocrinology and Metabolism

America

Endocrinology and Metabolism Clinics of North

Endocrinology and Metabolism Clinics of North America

European Journal of Endocrinology

Journal of

Clinical Endocrinology and Metabolism

Journal of Clinical Endocrinology

and Metabolism

Journal of

Clinical Endocrinology and Metabolism

Clinical Endocrinology

Journal

of Clinical Endocrinology and Metabolism

Endocrine Research

Diabetes

. World Journal of Surgery

Clinical Endocrinology

Surgery

154. Erbil Y, Ademoğlu E, Ozbey N, Barbaros U, Yanik BT, Salmaslıoğlu A, Bozbora A & Ozarmağan S. Evaluation of the cardiovascular risk in patients with subclinical Cushing syndrome

World Journal of Surgery

Endocrine Journal

Annals of Surgery

Endocrinology

European Journal of

Endocrinology and Metabolism

*Journal of Clinical
Surgical Oncology*

Surgical Endoscopy

Surgical Endoscopy

Endocrinology and Metabolism

Journal of Clinical

European Journal of Endocrinology