



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA
Azienda Ospedaliero - Universitaria di Ferrara



Sabato 3 dicembre 2022

PERCORSO DIAGNOSTICO TERAPEUTICO DELLE LESIONI SURRENALICHE NELLA PROVINCIA DI FERRARA

Il Follow-up

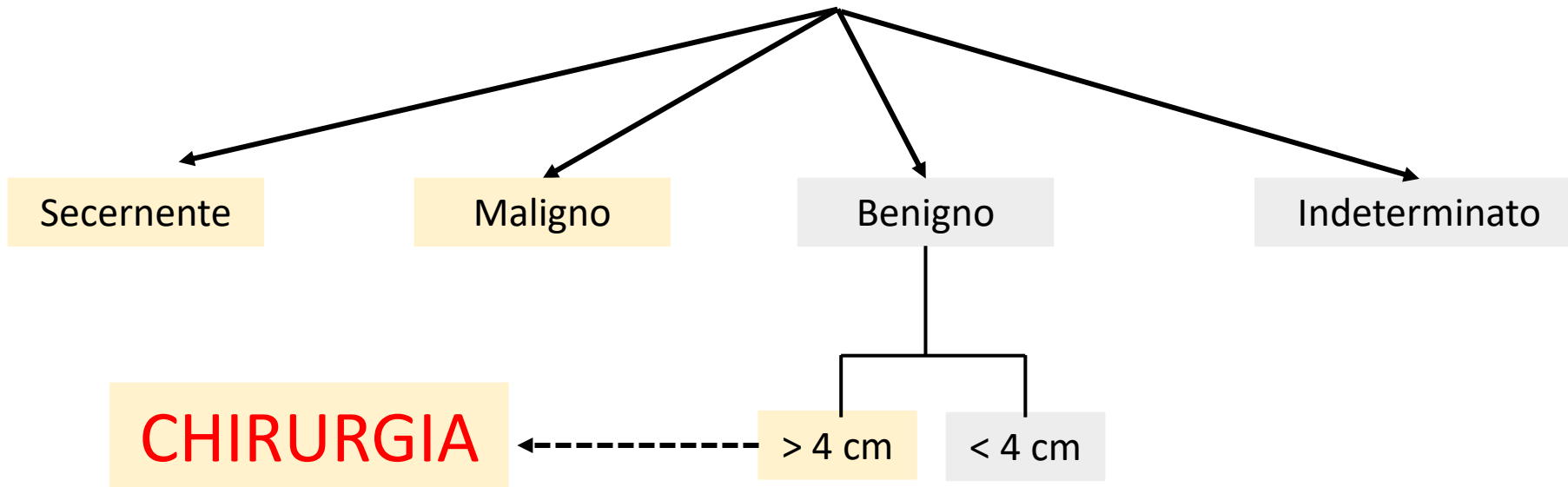


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Università degli Studi di Ferrara*

NODULO SURRENALICO

- 09.30 Inquadramento clinico e laboratoristico – *A. Daniele*
- 09.45 Inquadramento radiologico – *M. Tilli*
- 10.00 Inquadramento medico-nucleare – *L. Urso*
- 10.15 Il sampling delle vene surrenaliche – *R. Galeotti*



CHIRURGIA

Follow-up ???????

Table 1. Comparison among Consensus/Guidelines on Radiological Follow-up

Consensus/Guidelines	Year of publication	Country	Recommendation/Suggestion	Level of evidence
National Institutes of Health (NIH) consensus conference [19]	2002	United States	Repeat a CT scan at 6–12 months. If there is not an increase in size, follow-up should be ended.	
Exploration and management of adrenal incidentalomas. French Society of Endocrinology Consensus [20]	2008	France	Repeat a CT scan at 6 months to rule out the very-low risk of overlooking a malignant tumor. Repeat a CT scan at 2 years and at 5 years to checking for long-term malignant risk.	
American Association of Clinical Endocrinologists/American Association of Endocrine Surgeons (AAACE/AAES) guideline [18]	2009	United States	Repeat an imaging at 3–6 months and then annually for 1–2 years	Grade C; Evidence Level 3
Guidelines for the management of the incidentally discovered adrenal mass [21]	2011	Canada	No further imaging in patients with a benign appearing mass < 1 cm or in patients with benign etiologies at discovery (myelolipomas, hemorrhages, cysts).	Grade D; Evidence Level 4 Recommendation
			Repeat imaging after 12 months (preferably of the same modality used at diagnosis) for masses of 1–2 cm if the clinical picture warrants (consider no follow-up if imaging is stable). Repeat imaging after 12 months for masses 2–4 cm: if stable, consider no follow-up while if not stable consider surgical removal or close follow-up (3–6 months). If a mass exhibits an increase in size (greater than 0.5–1 cm) consider surgical removal.	Grade C; Evidence Level 3 Recommendation
Italian Association of Clinical Endocrinologists (AME) position statement [1]	2011	Italy	In general, repeat a CT scan at 3–6 months. No further imaging in patients with small tumors (<2 cm). For larger tumors the decision should be based on the characteristics of the mass, patient age and history, results of endocrine work-up.	

Prima....

Ripetere imaging a 6-12 mesi, poi periodicamente (?)



Adrenal incidentaloma in adults—management recommendations by the Polish Society of Endocrinology [22]	2016	Poland	If the tumor is small (≤ 3 cm) and resembles a typical lipid-rich adenoma, imaging tests are recommended annually. In the cases of larger tumors, or those with a less characteristic phenotype, consider imaging check-ups every 3–6 months within the first year, and later every 12 months. If the lesion is not oncological suspicious and is stable, stop follow-up after 4 years.	
European Society of Endocrinology/ European Network for the Study of Adrenal Tumors (ESE/ENSAT) guideline [2]	2016	Europe	No further imaging in patients with an adrenal mass <4 cm with clear benign features on imaging studies. Repeat a non-contrast CT scan or MRI at 6–12 months in patients with a mass >4 cm or with indeterminate characteristics at the first imaging. If there is growth of the lesion less than 20% of the largest diameter during this period, additional imaging after 6–12 months should be performed (in case of growth >20% and at least a 5 mm increase in maximum diameter, the patient should be evaluated for surgical resection).	Weak recommendation; Evidence Level very low Weak recommendation; Evidence Level very low
Clinical Guidelines for the Management of Adrenal Incidentaloma [23]	2017	Korea	No further imaging in patients with an adrenal mass <4 cm with clear benign features on initial work-up. Repeat a CT scan at 3–6 months and then annually for 1–2 years in patients with a mass <4 cm and >10 HU. In case of repeated imaging follow-up, no further exams are required if the tumor does not change in size over a period of more than 1 year, but if a mass with indeterminate radiological features increases in size more than 0.8–1 cm during 3–12 months of follow-up or it changes its appearance, consider an adrenalectomy.	Recommendation Level C



Dopo....

Stop follow-up se < 4 cm con evidenti caratteristiche di benignità all' imaging ?

CT, computed tomography; MRI, magnetic resonance imaging; HU, Hounsfield unit.





Management of adrenal incidentalomas: European Society of Endocrinology Clinical Practice Guideline in collaboration with the European Network for the Study of Adrenal Tumors

R 5.2. In patients with an indeterminate adrenal mass (by imaging) opting not to undergo adrenalectomy following initial assessment, we suggest a repeat noncontrast CT or MRI after 6–12 months to exclude significant growth (⊕000). We suggest surgical resection if the lesion enlarges by more than 20% (in addition to at least a 5 mm increase in maximum diameter) during this period. If there is growth of the lesion below this threshold, additional imaging after 6–12 months should be performed.

Raccomandazione debole

Livello di evidenza molto basso

Quale cut-off?

Canada: 0.8-1 cm

Korea: 0.5-1 cm



Natural History of Adrenal Incidentalomas With and Without Mild Autonomous Cortisol Excess

A Systematic Review and Meta-analysis

2019

Yasir S. Elhassan, MBBS; Fares Alahdab, MD; Alessandro Prete, MD; Danae A. Delivanis, MD, PhD; Aakanksha Khanna, MD; Larry Prokop, MLS; Mohammad H. Murad, MD, MPH; Michael W. O'Reilly, PhD; Wiebke Arlt, MD, DSc; and Irina Bancos, MD

Totale di 3277 pazienti di 23 studi

Follow-up medio di circa 4 anni

Incremento dimensionale nel 6.3%

Incremento di almeno 10 mm solo nel 2.5% dei pazienti

Solo il 0.9% degli adenomi era cresciuto di almeno 10 mm quando il follow-up medio era <24 mesi vs. 2.9% >24 mesi

No trasformazione maligna durante un follow-up medio di 49.3 mesi



Un'altra classe di lesioni che potrebbe beneficiare di un follow-up radiologico sono i mielolipomi



Nonostante siano tumori benigni, essi tendono a crescere nel tempo con il rischio di compressione degli organi adiacenti e/o sanguinamenti se > 6 cm

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Secernente

Secrezione autonoma di cortisolo



Management of adrenal incidentalomas: European Society of Endocrinology Clinical Practice Guideline in collaboration with the European Network for the Study of Adrenal Tumors

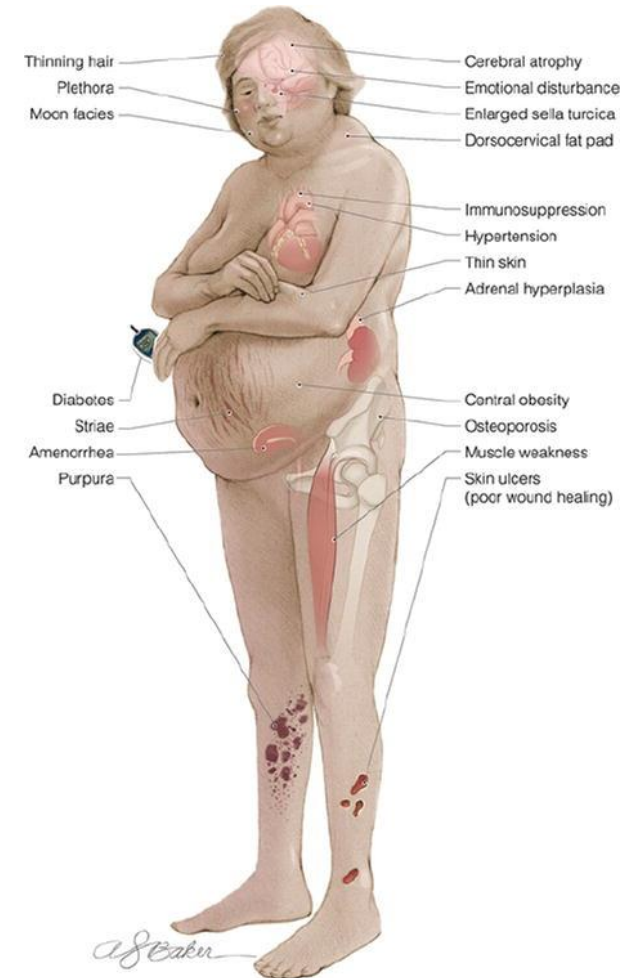
~~Ipercortisolismo subclinico~~

Secrezione autonoma di cortisolo

I pazienti non presentano segni e sintomi tipici
della sindrome di Cushing

30% degli
incidentalomi
surrenali

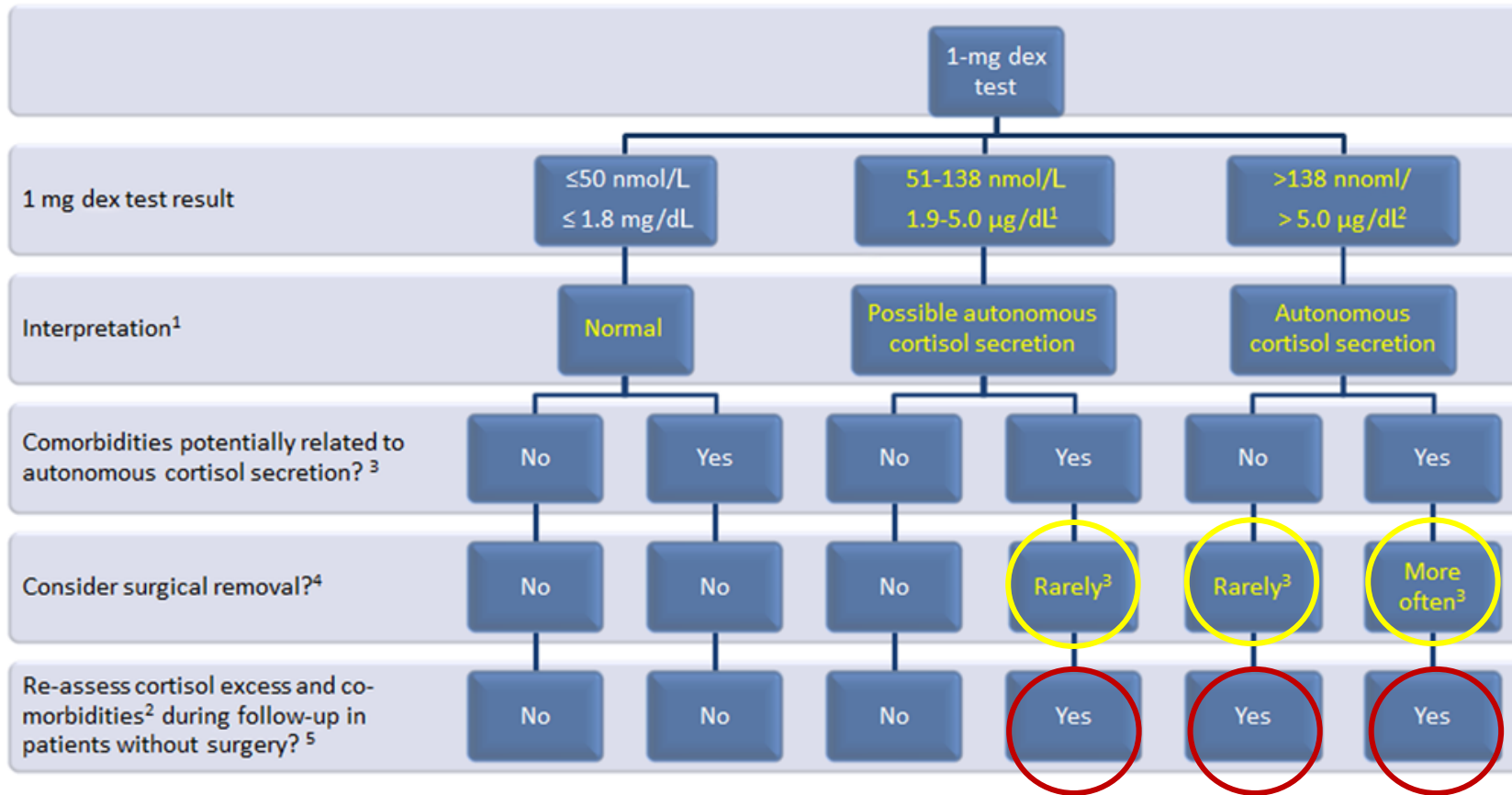
Sindrome di Cushing



- Non vi è consenso unanime in merito alla soluzione chirurgica per i noduli surrenalici associati a secrezione autonoma di cortisolo
- È noto come l'ipercortisolismo, anche nelle forme subcliniche, sia associato a plurime comorbidità, in particolare cardiovascolari, metaboliche ed ossee
- Studi retrospettivi hanno descritto nei pazienti portatori di noduli surrenalici associati a secrezione autonoma di cortisolo una mortalità aumentata rispetto ai portatori di noduli surrenalici non secernenti
- I dati di letteratura sembrano confermare un beneficio clinico cardiovascolare e metabolico dopo chirurgia di queste lesioni
- Tuttavia non è stato ancora possibile definire un algoritmo di gestione "evidence-based"
- La progression da "secrezione autonoma di cortisolo" a "Sindrome di Cushing" è rara

Età ??

Comorbidità di lunga data ??



Comorbidities



Hypertension
 Glucose intolerance/type 2 diabetes mellitus
 Obesity
 Dyslipidemia
 Osteoporosis

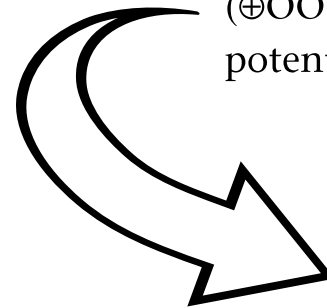
Rivalutazione annuale della secrezione di cortisolo e delle comorbidità correlate all'eccesso di cortisolo



Management of adrenal incidentalomas: European Society of Endocrinology Clinical Practice Guideline in collaboration with the European Network for the Study of Adrenal Tumors

R 5.3. We suggest against repeated hormonal work-up in patients with a normal hormonal work-up at initial evaluation unless new clinical signs of endocrine activity appear or there is worsening of comorbidities (e.g. hypertension and type 2 diabetes) (⊕000).

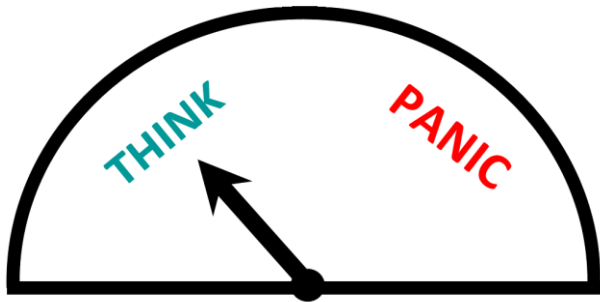
R 5.4. In patients with ‘autonomous cortisol secretion’ without signs of overt Cushing’s syndrome, we suggest annual clinical reassessment for cortisol excess comorbidities potentially related to cortisol excess (⊕000). Based on the outcome of this evaluation, the potential benefit of surgery should be considered.



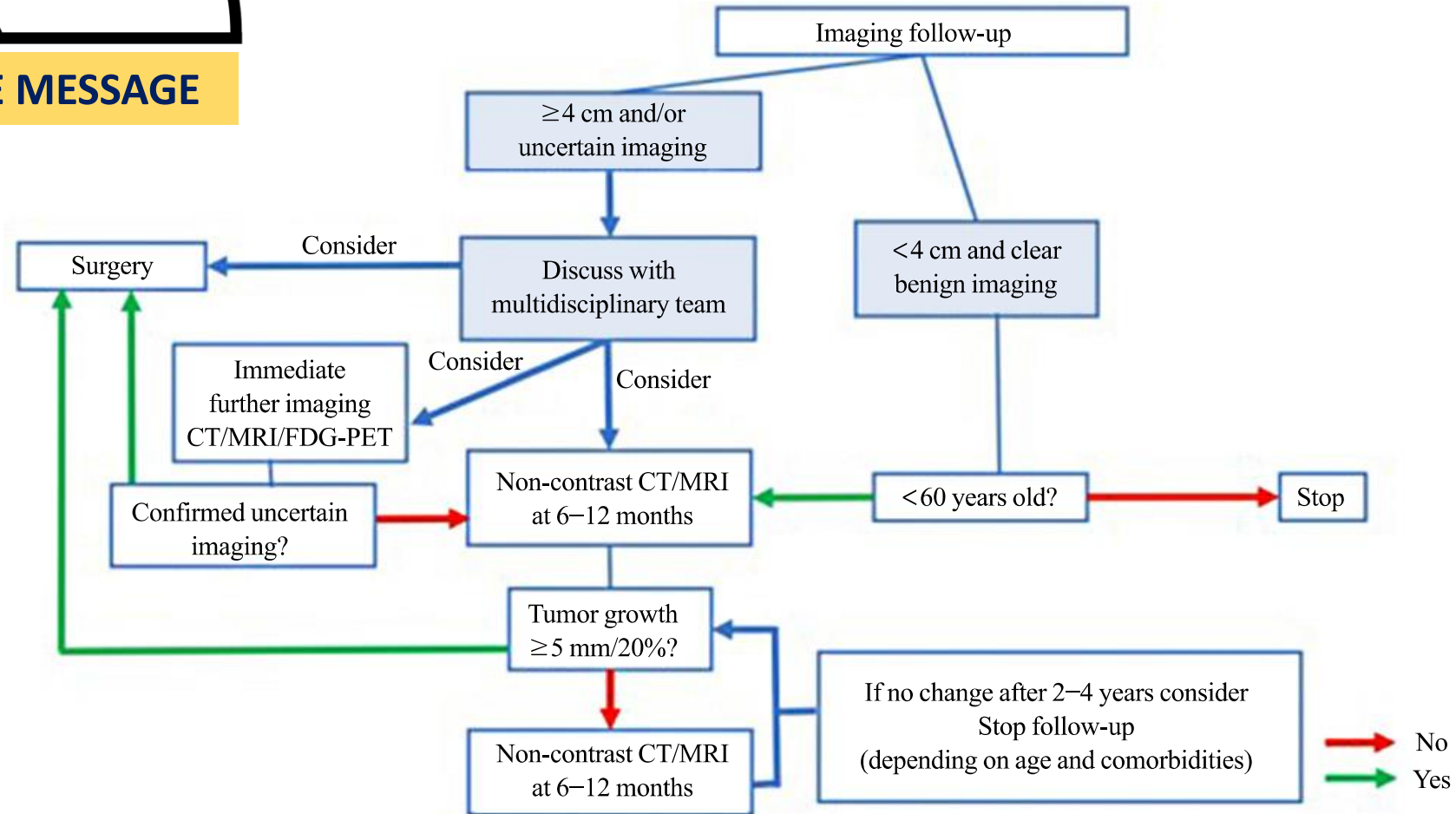
- Alla valutazione clinica si può aggiungere una rivalutazione ormonale per monitorare il “grado di ipercortisolismo”
- Follow-up: 2-4 anni

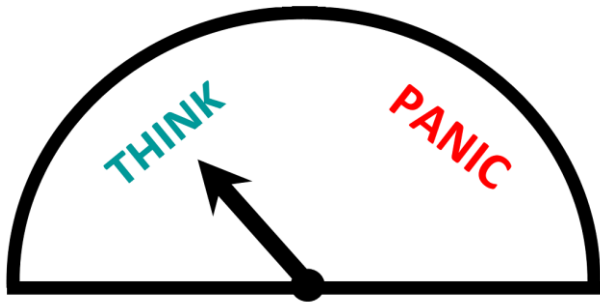


Per i piccoli noduli “lipid-poor” con un’augmentata probabilità pre-test di feocromocitoma (es. mutazioni germinali note associate allo sviluppo di feocromocitoma) è consigliabile il monitoraggio con catecolamine e metanefrine urinarie

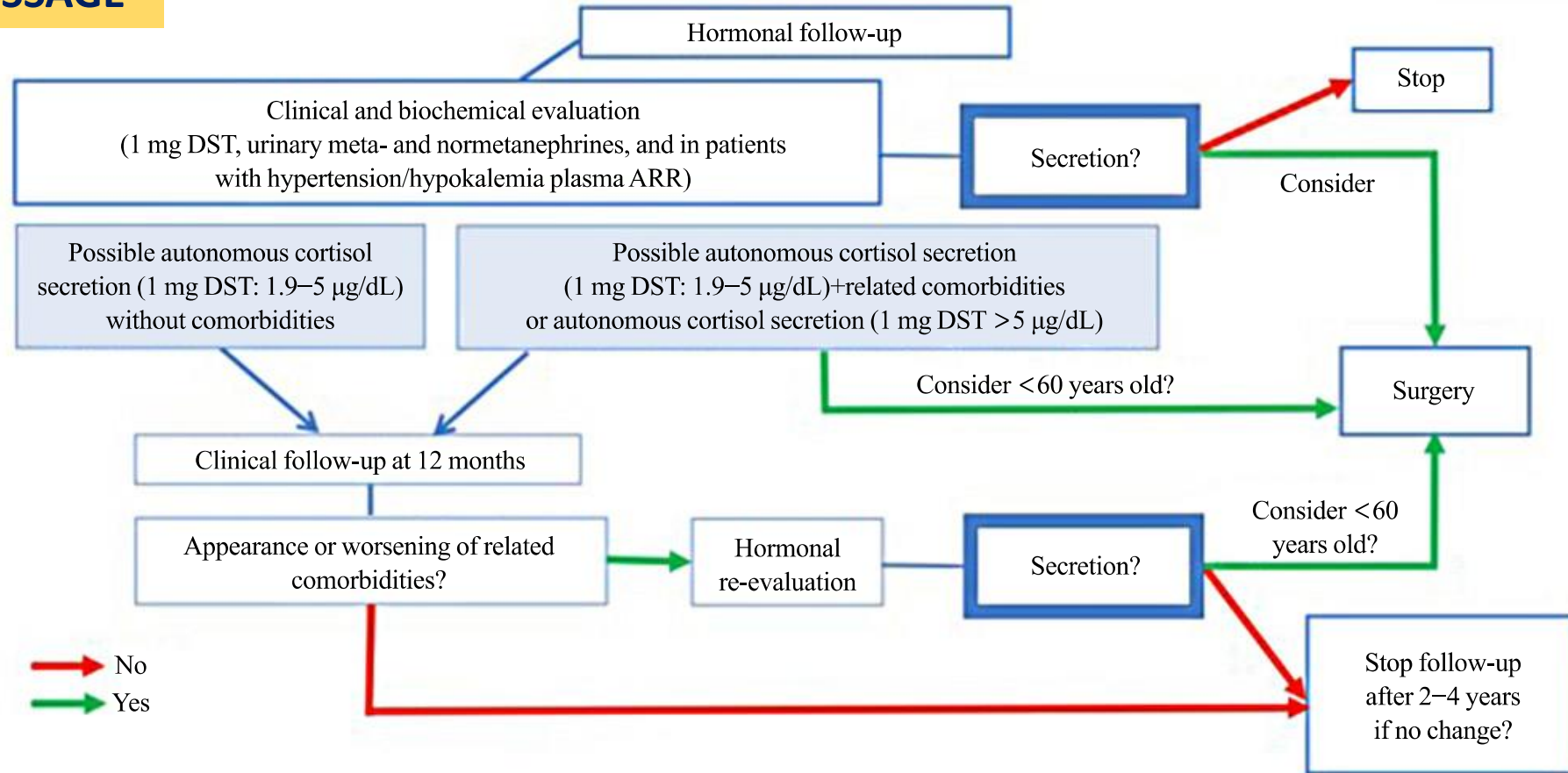


TAKE HOME MESSAGE





TAKE HOME MESSAGE





Grazie