Approach to the Patient with Possible Cushing's Syndrome

Marco Boscaro and Giorgio Arnaldi

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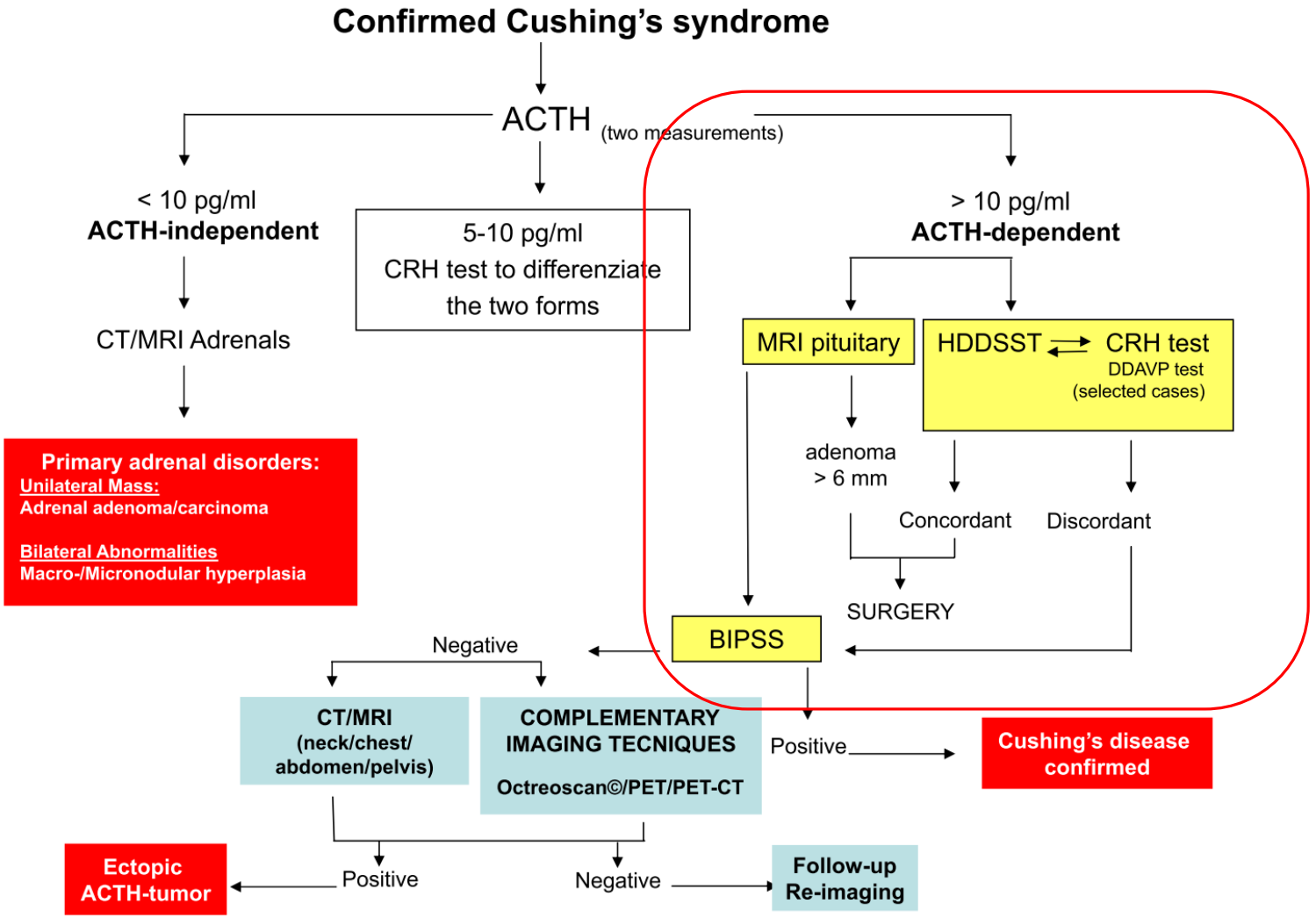

FIG. 1. Clinical decision-making flow chart.

Pituitary magnetic resonance imaging in Cushing's disease

Giovanni Vitale[1,2] · Fabio Tortora[3] · Roberto Baldelli[4] · Francesco Cocchiara[5] · Rosa Maria Paragliola[6] · Emilia Sbardella[7] · Chiara Simeoli[8] · Ferdinando Caranci[9] · Rosario Pivonello[8] · Annamaria Colao[8] on behalf of the A.B.C. Group

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Clinical and biochemical findings suspicious for an ACTH-secreting pituitary adenoma

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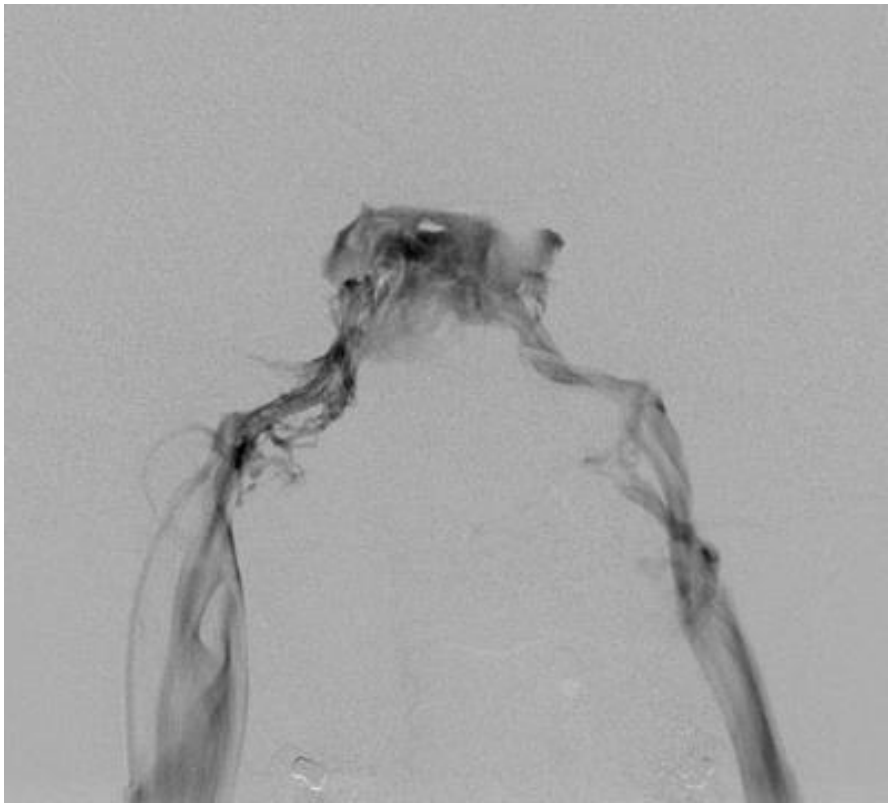
Pituitary MRI

	Coil Type	Plane	Mode	Pulse Sequence	TE	TR	FOV	Slice Thickness	Matrix Size
SAGITTAL T1	Head	SAG	2D	SE	10.3 ± 0.5 ms	400 ms	12-14 cm	1-1.5 mm	≥ 256x512
CORONAL T1	Head	COR	2D	SE	10.3 ± 0.5 ms	400 ms	12-14 cm	1-1.5 mm	≥ 256x512
CORONAL T2	Head	COR	2D	SE	100-120 ms	3000-4000 ms	14-18 cm	1-1.5 mm	≥ 256x512
CORONAL DINAMIC	Head	COR	2D	SE	17 ms	400 ms	12-14 cm	1-1.5 mm	256x192
SAGITTAL T1 POST FS	Head	SAG	2D	SE	10.3 ± 0.5 ms	400 ms	12-14 cm	1-1.5 mm	≥ 256x512
CORONAL T1 POST FS	Head	COR	2D	SE	10.3 ± 0.5 ms	400 ms	12-14 cm	1-1.5 mm	≥ 256x512
CORONAL VI-SGE	Head	COR	3D	GE	3.3 ms Flip angle 15°	10-15 ms	16 cm	1 mm	256x205

Fig. 1 A recommended pituitary MRI protocol to be adopted in patients with clinical and biochemical findings suspicious for an ACTH-secreting pituitary adenoma. These parameters should be maintained in post-contrast medium acquisitions. *cm* centimetres, *COR* coronal, *FOV* field of view, *FS* fat saturated post gadolinium, *GE* gradient echo, *ms* milliseconds, *SAG* sagittal, *SE* spin echo, *TE* echo time, *TR* repetition time, *VI-SGE* volume interpolated-spoiled gradient echo sequence

BIPSS

- **Sensitivity 88-100%**
- **Specificity 70-100%**
- **Lateralization 70%**



NEUROSURGICAL FOCUS

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The role of inferior petrosal sinus sampling in ACTH-dependent Cushing's syndrome: review and joint opinion statement by members of the Italian Society for Endocrinology, Italian Society for Neurosurgery, and Italian Society for Neuroradiology

Francesca Pecori Giraldi, MD,[1,2] Luigi Maria Cavallo, MD, PhD,[3] Fabio Tortora, MD, PhD,[4] Rosario Pivonello, MD, PhD,[6] Annamaria Colao, MD, PhD,[6] Paolo Cappabianca, MD,[3] and Franco Mantero, MD, PhD,[5] on behalf of the Altogether to Beat Cushing's Syndrome Group

[1]Department of Clinical Sciences and Community Health, University of Milan; [2]Neuroendocrine Research Laboratory, Istituto Auxologico Italiano, Milan; [3]Division of Neurosurgery, Department of Neurosciences and Reproductive and Odontostomatological Sciences, and [6]Department of Clinical Medicine and Surgery, University of Naples Federico II; [4]Department of Neuroradiology, "Magrassi Lanzara" Clinical-Surgical Department, Second University of Naples, Naples; and [5]Endocrinology Unit, Department of Medicine, University of Padua, Italy

In the management of adrenocorticotropic hormone (ACTH)–dependent Cushing's syndrome, inferior petrosal sinus sampling (IPSS) provides information for the endocrinologist, the neurosurgeon, and the neuroradiologist. To the endocrinologist who performs the etiological diagnosis, results of IPSS confirm or exclude the diagnosis of Cushing's disease with 80%–100% sensitivity and over 95% specificity. Baseline central-peripheral gradients have suboptimal accuracy, and stimulation with corticotropin-releasing hormone (CRH), possibly desmopressin, has to be performed. The rationale for the use of IPSS in this context depends on other diagnostic means, taking availability of CRH and reliability of dynamic testing and pituitary imaging into account. As regards the other specialists, the neuroradiologist may collate results of IPSS with findings at imaging, while IPSS may prove useful to the neurosurgeon to chart a surgical course. The present review illustrates the current standpoint of these 3 specialists on the role of IPSS.

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KEY WORDS inferior petrosal sinus sampling; Cushing's disease; Cushing's syndrome; diagnosis; pituitary adenoma; pituitary surgery; pituitary imaging

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Conventional and Nuclear Medicine Imaging in Ectopic Cushing's Syndrome: A Systematic Review

Andrea M. Isidori, Emilia Sbardella, Maria Chiara Zatelli, Mara Boschetti, Giovanni Vitale, Annamaria Colao, and Rosario Pivonello, on behalf of the ABC Study Group*

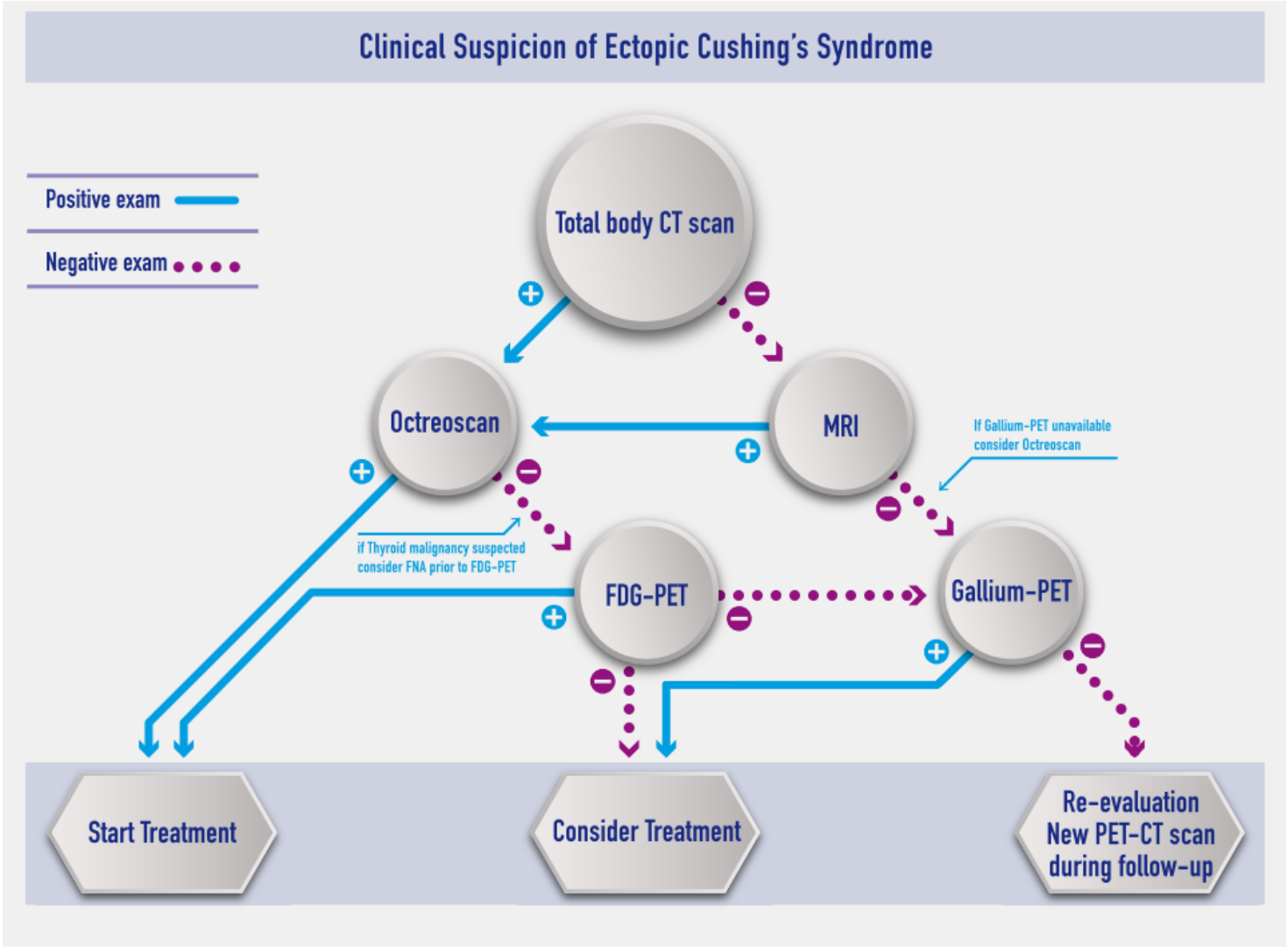

Figure 1. Clinical suspicion of ectopic CS.