

# Pituitary Gland Disorders



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## Members

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## Main Lines of Research

- ▶ ERCUSYN: European Registry on Cushing syndrome. Initiated with funding from SANCO, EU Public Health Programme.
- ▶ Role of myosteatosi in the development and persistence of residual muscular fragility in treated acromegaly and Cushing's syndrome. Study of the mechanisms involved.
- ▶ Spanish Molecular Registry of Pituitary Adenomas (REMAH study).
- ▶ Morbimortality, low-grade inflammation and cardiovascular risk in patients with acromegaly or Cushing syndrome.
- ▶ International consortium collaboration to identify genes and pathogenetic mechanisms involved in the development of craniopharyngiomas and pituitary adenomas.
- ▶ Neuroradiological, neuropsychological and clinical study of endogenous hypercortisolism: comparison of Cushing syndrome and chronic major depressive disorder.
- ▶ Validation of psychological properties of specific questionnaires to evaluate health-related quality of life (HRQoL) in Cushing syndrome and acromegaly.
- ▶ Study of bone microarchitecture and resistance and their predictors in patients with Cushing's syndrome and acromegaly in remission. A model to investigate the interaction between bone and body fat.
- ▶ Aetiology of cardiopathy in acromegaly and its relation to body composition.
- ▶ Role of telomeres in endocrine diseases.

## Challenges

- ▶ Investigate the neuropsychological, neuroradiological and clinical correlation of patients with endogenous hypercortisolism (due to Cushing syndrome or chronic major depressive disorder) or exogenous exposure to low-dose glucocorticoids (due to treatment of adrenal insufficiency or rheumatoid arthritis). Similar studies for acromegaly.
- ▶ Evaluate long-term morbidity and mortality in patients who have had Cushing syndrome or acromegaly in the last 35 years, especially bone quality, muscular dysfunction and quality of life
- ▶ Analyse and update the European database of patients with Cushing syndrome (ERCUSYN), which in 2017 included over 1600 patients from 57 centres in 36 countries.
- ▶ Conduct in vitro molecular analysis of operated pituitary adenomas within the REMAH (Molecular Registry of Pituitary Adenomas) study, sponsored by the Spanish Endocrinology and Nutrition Society.

## Active Grants

- ▶ Susan Webb Youdale. Estudio de microarquitectura y resistencia óseas y de factores que las determinan en el síndrome de Cushing o acromegalia en remisión. Modelo para investigar la interacción hueso-grasa corporal. PI14/00194. Instituto de Salud Carlos III. Duration: 2015-2019. 91,500.00 €.
- ▶ Susan Webb Youdale. Grup de Recerca de Malalties de la Hipòfisi i Grup CIBERER 747 (CIBER de Malalties Rares). 2014 SGR 355. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2014-2017.

Note: Total amount granted to PI. It does not include indirect costs.

## Grants Awarded in 2017

- ▶ Elena Valassi. Role of myosteatosi in the development and persistence of residual muscular fragility in treated acromegaly and Cushing's syndrome. Study of the mechanisms involved. PI 17/00749. Duration: 2018-2020.

Note: Total amount granted to PI. It does not include indirect costs.

## Theses

- ▶ Patricia Pires Encuentra. Anomalías de la sustancia blanca cerebral en el síndrome de Cushing en relación a sintomatología psiquiátrica y rendimiento cognitivo. UAB. Directors: Susan M Webb, Beatriz Gómez Ansón. Date of defense: 19/09/2017.

**Collaborations with other IIB Sant Pau Groups**

- ▶ Martínez-Momblan MA, Santos A, Santesmases R, Campillo B, Guillaumet M, Serret M, Torres A, Abades M. Estudio longitudinal de la inserción laboral de los titulados de máster en enfermería. Revista ROL de Enfermería [Epub ahead of print]
- ▶ Collaboration with the Neuromuscular Research Group led by Dr Isabel Illa, specifically with Dr Jordi Manero, to evaluate muscle in patients treated for acromegaly and Cushing syndrome.

**External Collaborations**

- ▶ Bilateral research between E Resmini and Richard Lee of Baltimore University, Departments of Psychiatry and Medicine, the Johns Hopkins University School of Medicine. It has generated the publication Resmini E., Santos A., Aulinas A., Webb S.M., Reduced DNA methylation of FKBP5 in Cushing's syndrome. (2016) ENDOCRINE, 54 (3), 768-77.
- ▶ Genetic, molecular and clinical characterisation of craniopharyngioma. St Bartholomew's Hospital and The London Charity Hospital. With Dr. Carles Gaston-Massuet.
- ▶ Participation in the project of Personalized Medicine of the ISCIII. Improved and efficient therapy of acromegaly by implementation of a personalized and predictive algorithm including functional analysis, imaging and genomic informationn (number PMP 15/00027). Global PI: Manel Puig Domingo. Participating PIs:
  - IGTP Group/CIBERER GP: Manel Puig Domingo (PI)
  - Sant Pau Group/CIBERER 747: Susan Webb (PI), E Resmini, E Valassi, A Santos, I Crespo, A Aulinas
  - IDIBAPS/Clínic Group/CIBERER GV: Irene Halperin (PI)
  - Hospital de la Ribera Group (Alzira): Carmiña Fajardo (PI)
  - Hospital de la Princesa Group (Madrid)/CIBERER GP: Mónica Marazuela (PI)
  - Complejo Hospitalario de Santiago de Compostela Group: Ignacio Bernabéu (PI)
  - Hospital Universitario de Alicante/CIBERER GV: Antonio Picó (PI)
  - IMS Health: Montserrat Roset (PI)
- ▶ Silent corticotrope adenomas: Are they a subtype of more aggressive non-functioning pituitary adenomas? Project funded by CIBERER in the competitive call on Traslational Medicine, 2015-2016. PI: Antonio Picó (Alacant). Participating Units: U747-S. Webb (S Pau); U725A-L. Castaño (Bilbao); GCV 13\_Picó (Alacant); GCV 11\_Halperin (H Clinic Barcelona); GCV 12\_Marazuela (Hosp Princesa, Madrid); GCV 14\_Puig (Hospital GTiP, Badalona); GCV 15\_Soto (HUV Rocio Sevilla).

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\*TIF: 47.76 \*\*MIF: 3.411

## Scientific Production

Aulinas A., Crespo I., Vilades D., Leta R., Urgell E., Biagetti B., Webb S.M., Valassi E., Cystatin-C and epicardial adipose tissue as noninvasive predictors of cardiovascular risk in acromegaly (2017) *CLIN ENDOCRINOL*, 86 (2), 214-222.

**IF: 3.077**

Caimari F., Valassi E., Garbayo P., Steffensen C., Santos A., Corcoy R., Webb S.M., Cushing's syndrome and pregnancy outcomes: a systematic review of published cases (2017) *ENDOCRINE*, 55 (2), 555-563.

**IF: 3.179**

Crespo I., Valassi E., Webb S.M., Update on quality of life in patients with acromegaly (2017) *PITUITARY*, 20 (1), 185-188.

**IF: 2.730**

Ibanez-Costa A., Lopez-Sanchez L.M., Gahete M.D., Rivero-Cortes E., Vazquez-Borrego M.C., Galvez M.A., De La Riva A., Venegas-Moreno E., Jimenez-Reina L., Moreno-Carazo A., Tinahones F.J., Maraver-Selfa S., Japon M.A., Garcia-Arnes J.A., Soto-Moreno A., Webb S.M., Kineman R.D., Culler M.D., Castano J.P., Luque R.M., BIM-23A760 influences key functional endpoints in pituitary adenomas and normal pituitaries: Molecular mechanisms underlying the differential response in adenomas (2017) *SCI REP-UK*, 7.

**IF: 4.122**

Kyriakakis N., Lynch J., Gilbey S.G., Webb S.M., Murray R.D., Impaired quality of life in patients with treated acromegaly despite long-term biochemically stable disease: Re-

sults from a 5-years prospective study (2017) *CLIN ENDOCRINOL*, 86 (6), 806-815.

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Pires P., Santos A., Vives-Gilabert Y., Webb S.M., Sainz-Ruiz A., Resmini E., Crespo I., de Juan-Delago M., Gomez-Anson B., White matter involvement on DTI-MRI in Cushing's syndrome relates to mood disturbances and processing speed: a case-control study (2017) *PITUITARY*, 20 (3), 340-348.

**IF: 2.730**

Santos A., Resmini E., Pascual J.C., Crespo I., Webb S.M., Psychiatric Symptoms in Patients with Cushing's Syndrome: Prevalence, Diagnosis and Management (2017) *DRUGS*, 77 (8), 829-842.

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Santos A., Granell E., Gomez-Anson B., Crespo I., Pires P., Vives-Gilabert Y., Valassi E., Webb S.M., Resmini E., Depression and Anxiety Scores Are Associated with Amygdala Volume in Cushing's Syndrome: Preliminary Study (2017) *BIOMED RES INT*, 2017.

**IF: 2.583**

Sesnilo G., Resmini E., Sambo M., Blanco C., Calvo F., Pazos F., Fernandez-Catalina P., Martinez De Icaya P., Paramo C., Fajardo C., Marazuela M., Alvarez-Escola C., Diez J.J., Perea V., Prevalence of acromegaly in patients with symptoms of sleep apnea (2017) *PLOS ONE*, 12 (9).

**IF: 2.766**

Valassi E., Crespo I., Keevil B.G., Aulinas A., Urgell E., Santos A., Trainer P.J., Webb S.M.,

Affective alterations in patients with Cushing's syndrome in remission are associated with decreased BDNF and cortisone levels (2017) *EUR J ENDOCRINOL*, 176 (2), 221-231.

**IF: 4.333**

Valassi E., Franz H., Brue T., Feelders R.A., Neeta-Maier R., Tsagarakis S., Webb S.M., Yaneva M., Reincke M., Droste M., Diagnostic tests for Cushing's syndrome differ from published guidelines: Data from ERCUSYN (2017) *EUR J ENDOCRINOL*, 176 (5), 613-624.

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