



3.7.8 Research in Endometriosis



Publications:18 | Q1:5

COMPOSITION

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STRATEGIC OBJECTIVE

- Endometriosis is a debilitating gynaecological disease, responsible of pain and infertility with consequent worsening of women's quality of life. The prevalence is estimated on 10% of the fertile age women, with an impact on quality of life and reproductive health. Despite its high prevalence and the great scientific activity generated around this disease, we are facing a problem whose etiology remains unknown. Although it is a chronic illness, which begins to cause symptoms very early in a large number of cases, there is still no predictive marker of the disease, no method of early diagnosis, or any way to modify its clinical course, which is highly variable, producing great uncertainty in affected women. Despite of great advances have been made in the treatment of the disease from a global perspective that included women's fertility and pain control, there is still no etiological treatment or any form of cure.
- The endometriosis research group is committed to the following objectives in the next 5 years: to develop a scientific project for FIS 2023, to encourage young researchers, to organize a Master's Degree in Laparoscopy and Endometriosis, to increase the number of final degree projects and final master's projects, to improve the training of gynecological specialty trainee and promote internships abroad, to write publications of the results of our ongoing projects (mainly FIS 2020), to design a website for the HULP- Endometriosis group and to announce monthly workshops of patients with doctors and professionals from the Endometriosis Unit. We also set ourselves the challenge of recognizing the Endometriosis Unit-CSUR (National reference Unit) and promoting gender equality in research and innovation.
- The strategies proposed to achieve these objectives are as follows: Participation in the FIBHULP "Mentor Program", to promote collaboration between senior researcher and junior researcher to carry out research projects, congresses communication, to enable specialist trainee and junior gynecologists to perform the "Winner Project", (an educational program for Endoscopic Gynecological Surgery with 3 levels of progression), to encourage collaboration with providers in the endoscopic sector such as Storz, Olympus and Striker. In addition, we have support from IdiPaz Biostatistics and IdiPAZ Biobank (PT20 / 00004) integrated into the National Network of Biobanks of Spain, technical assistance from the HULP Computer and Bioengineering Service, as well as active collaboration with national associations of patients and announcement of events in "La Paz Informa".
- Moreover, the Endometriosis Unit of Hospital La Paz has numerous strategic alliances, at the national level (Hospital Clínic of Barcelona, Hospital General of Valencia, Clínica Dexeus Barcelona) and also internationally (Oncopole -Oncology Institute of Toulouse (France), University Hospital of Bologna (Italy), University Hospital of Liège (Belgium), University Hospital of Siena (Italy), University Hospital of Malmö (Stockholm)).



RESEARCH LINES

- Investigation of immunological and molecular factors involved in the pathogenesis of endometriosis.
- Investigation of biomarkers to predict the risk of endometriosis malignant transformation. Our objective is to identify a panel of immune system markers and specific genetic mutations to predict endometriosis patients at increased risk of developing ovarian cancer and to identify factors that allow the use of immunotherapy in this type of cancer. In both pathologies (endometriosis and ovarian cancer), the dysfunction of the immune system favours the progression of the disease. In February 2021, the Endometriosis Group received a Health Research Fund by Health Research Institut Carlos III for the project: "Molecular and immunological factors with predictive value in endometriosis associated ovarian cancer".
- Research of new non-hormonal drugs to control symptoms and disease progression.
- Clinical research and new technologies: the advantages of Fluorescence Guided Surgery (FGS). In our operating rooms (Hospital Maternal, HULP) we use modern technology that allows real-time visualization of certain anatomical structures and helps the surgeon to reduce intraoperative stress and improve performance. Recently, the intraoperative use of indocyanine green (ICG) has shown advantages in intestinal surgery for endometriosis. ICG is a dye that is injected intravenously and rapidly reaches the blood vessels of the abdominal organs and allows the emission of fluorescence in the spectral range of the infrared ray. In this way, the vascularization of the colorectal anastomosis can be assessed after bowel resection in patients with endometriosis. We are currently investigating the use of a macromolecule linked to ICG that allows the dye to remain longer in vascularized tissues (rectum), and with a single injection at the start of surgery. This technique is also useful for delimiting endometriotic nodules before removing them.
- Clinical research focusing on the early diagnosis of endometriosis in adolescent patients (European Multicentre Project: Erasmus Project).



RESEARCH ACTIVITY

Doctoral theses

- **Angelès Fité MA.** Papel de la cirugía en el cáncer de ovario avanzado[dissertation]. *UAM: Madrid: 2023(04/12/2023). Director: Hernández Gutiérrez MA.*
- **Boldó Roda A.** Análisis y resultados en el cambio del paradigma del tratamiento de cancer de ovario avanzado[dissertation]. *Universitat de Valencia: Valencia: 2023(23/12/2023). Director: Domingo del Pozo S, Hernández Gutiérrez A.*
- **Hernández Alonso J.** Evaluación del impacto de la pandemia de COVID-19 en la mujer gestante. Análisis de la salud mental perinatal y ajuste psicológico[dissertation]. *UAM: Madrid: 2023(27/11/2023). Director: Armijo Suarez OM, de la Calle Fernández-Miranda M.*

Final Degree Theses

- **González B.** Diseño y desarrollo de una plataforma para la monitorización y acompañamiento de personas con endometriosis. [dissertation]. *Madrid: Universidad Politécnica de Madrid: 2023(12/07/2023). Director: Hernández Gutiérrez MA.*

Publications

- **Alonso-Espías M, Alonso-García M, García-Pineda V, Gracia M, Siegrist J, Diestro MD, Hernández A, Zapardiel I.** Beyond bladder dysfunction: assessing the full impact of radical hysterectomy on cervical cancer patients. *Eur J Gynaecol Oncol.* 2023; 44(6): 60-6. Article. IF: 0.5; Q4
- **Alonso-Espías M, Gorostidi M, Gracia M, García-Pineda V, Diestro MD, Siegrist J,**

Hernández A, Zapardiel I. Role of adjuvant radiotherapy in patients with cervical cancer undergoing radical hysterectomy. *J Pers Med.* 2023; 13(10): 1486. Article. IF: 3.0; Q2

- **Angeles MA, Spagnolo E, Cabarrou B, Pérez-Benavente A, Moreno AG, Guyon F, Rychlik A, Migliorelli F, Bataillon G, Navarro AS, Betrian S, Ferron G, Hernández A, Martínez A.** Impact of pattern of recurrence on post-relapse survival according to surgical timing in patients with advanced ovarian cancer. *Int J Gynecol Cancer.* 2023; 33(1): 50-6. Article. IF: 4.1; D1
- **Berenguer M, Vergara M, Almohalla C, Hernández A, Blanco S, Testillano M, Girona E, Casado M, García M, Catalina MV, Muñoz C, Gutiérrez ML, Molina E, Romero M, Otero A, Hernáez-Alsina T, Bernal-Monterde V, Lorente S, Masnou H, Bonet L, Soto S, Gisbert**

C, Valer MP, Gomez J, Pacheco G, Morillas J, González M, Domínguez N, Lazaro M, Pascual S, Castelló I. Significant heterogeneity in the diagnosis and long-term management of Wilson disease: Results from a large multicenter Spanish study. *Gastroent Hepat-Barc.* 2023; 46(8): 577-84. Article. IF: 2.2; Q3

- **Correa-Paris A, Ochoa VG, Gutiérrez AH, Estellés JG, Díaz-Feijoo B, Gil-Moreno A.** Simple radiologic assessment of visceral obesity and prediction of surgical morbidity in endometrial cancer patients undergoing laparoscopic aortic lymphadenectomy: A reliability and accuracy study. *J Obstet Gynaecol Re.* 2023; 49(3): 988-97. Article. IF: 1.6; Q3
- **de las Casas SG, Spagnolo E, Di Saverio S, Álvarez-Gallego M, Carrasco AL, López MC, Cobos ST, Campo CF, Gutiérrez AH, Migueláñez**



3.7 Maternal Infant Child and Youth Research Area

- IP. Short-term outcomes in patients undergoing laparoscopic surgery for deep infiltrative endometriosis with rectal involvement: a single-center experience of 168 cases. *Ann Coloproctol.* 2023; 39(3): 216-22. Article. IF: 3.0; Q2
- **Dell'Oglio P, Tappero S, Panunzio A, Antonelli A, Salvador D, Xylinas E, Álvarez-Maestro M, Hurle R, Salas RS, Colomer A, Simone G, Hendricksen K, Peroni A, Lonati C, Olivero A, RouprOt M, Roumiguié M, Soria F, Umari P, D'Andrea D, Terrone C, Galfano A, Moschini M, Di Trapani E.** Age represents the main driver of surgical decision making in patients candidate to radical cystectomy. *J Surg Oncol.* 2023; 128(1): 142-54. Article. IF: 2.0; Q3
 - **García-Pineda V, Hernández A, Garrido-Mallach S, Rodríguez-González E, Alonso-Espías M, Gracia M, Arnedo R, Zapardiel I.** Sentinel lymph node impact on the quality of life of patients with endometrial cancer. *J Pers Med.* 2023; 13(5): 847. Article. IF: 3.0; Q2
 - **Gracia M, Rodríguez E, Diestro MD, Spagnolo E, García V, Siegrist J, Pérez Y, Zapardiel I, Hernández A.** Impact of the Covid-19 pandemic on the management of gynecologic cancer: a Spanish survey. *Observational, multicenter study. BMC Womens Health.* 2023; 23(1): 488. Article. IF: 2.4; Q2
 - **Hernández A, Sanz A, Spagnolo E, López A, Jorge PM, Iniesta S, Rodríguez E, Prada SF, Ramiro-Cortijo D.** Impact of ovarian endometrioma and surgery on reproductive outcomes: a single-center spanish cohort study. *Biomedicines.* 2023; 11(3): 844. Article. IF: 3.9; Q2
 - **Mendiola M, Heredia-Soto V, Ruz-Caracuel I, Baillo A, Ramon-Patino JL, Escudero EJ, Miguel M, Pelaez-García A, Hernández A, Feliu J, Hardisson D, Redondo A.** Comparison of methods for testing mismatch repair status in endometrial cancer. *Int J Mol Sci.* 2023; 24(19): 14468. Article. IF: 4.9; Q1
 - **Quevedo IC, García IC, Gracia M, García-Pineda V, Alonso-Espías M, Siegrist J, Diestro MD, Hernández A, Zapardiel I.** Personalized sentinel node mapping in endometrial cancer by

the indocyanine green implementation as single tracer: a case control study. *J Pers Med.* 2023; 13(2): 170. Article. IF: 3.0; Q2

- **Raimondo D, Raffone A, Virgilio A, Ferla S, Maletta M, Neola D, Travaglini A, Paradisi R, Hernández A, Spagnolo E, García-Pineda V, Lenzi J, Guida M, Casadio P, Seracchioli R.** Molecular signature of endometrial cancer with coexistent adenomyosis: a multicentric exploratory analysis. *Cancers (Basel).* 2023; 15(21): 5208. Article. IF: 4.5; Q1
- **Raimondo D, Raffone A, Aru Anna C, Giorgi M, Giaquinto I, Spagnolo E, Travaglini A, Galatolo Federico A, Cimino M G, Cosimo A, Lenzi J, Centini G, Lazzeri L, Mollo A, Seracchioli R, Casadio P.** Application of deep learning model in the sonographic diagnosis of uterine adenomyosis. *Int J Env Res Pub He.* 2023; 20(3): 1724. Article. Not indexed
- **Sánchez-Méndez JI, Horstmann M, Méndez N, Frias L, Moreno E, Yébenes L, Roca MJ, Hernández A, Martí C.** Surgical interest of an accurate real-world prediction of primary systemic therapy response in her2 breast cancers. *Cancers (Basel).* 2023; 15(10): 2757. Article. IF: 4.5; Q1
- **Spagnolo E, Martínez A, Mascarós-Martínez A, Mari-Alexandre J, Carbonell M, González-Cantó E, Pena-Burgos EM, Mc Cormack BA, Tomás-Pérez S, Gilabert-Estellés J, López-Carrasco A, Hidalgo P, Angeles MA, Redondo A, Gallego A, Hernández A.** Evaluation of Immune Infiltrates in Ovarian Endometriosis and Endometriosis-Associated Ovarian Cancer: Relationship with Histological and Clinical Features. *Int J Mol Sci.* 2023; 24(15): 12083. Article. IF: 4.9; Q1
- **Yebes A, Toribio-Vázquez C, Martínez-Pérez S, Quesada-Olarte JM, Rodríguez-Serrano A, Álvarez-Maestro M, Martínez-Piñero L.** Prostatitis: A Review. *Curr Urol Rep.* 2023; 24(5): 241-51. Review. IF: 2.5; Q2
- **Zhao HD, Liu K, Giannakopoulos S, Yuruk E, De Naeyer G, Álvarez-Maestro M, Ng CF, Laguna P, de la Rosette J, Teoh JYC.** Impact of previous malignancy at diagnosis on oncological outcomes of upper tract urothelial carcinoma. *BMC Urol.* 2023; 23(1): 49. Article. IF: 1.7; Q3

Research projects

- **Hernández Gutiérrez A.** Factores inmunológicos en la transformación maligna de la endometriosis. FIBHULP. 2018-Ongoing. Managment centre: FIBHULP
- **Hernández Gutiérrez A.** Identificación de factores inmunológicos y moleculares con valor pronóstico en cáncer de ovario asociado a endometriosis e implicados en el potencial de malignización de la endometriosis (PI20/01368). FIBHULP. 2021-2023. Managment centre: FIBHULP
- **Hernández Gutiérrez A.** Implementación de técnicas basadas en "deep learning" para medir la intensidad del verde de indocianina en la cirugía de la endometriosis con resección intestinal. FIBHULP. 2022-Ongoing. Managment centre: FIBHULP
- **Hernández Gutiérrez A.** Dinamización de Ciencia Disruptiva en Predictores de Enfermedades Tumorales Infecciosas y Hereditarias como base de la Medicina Personalizada (FORT23/00006). ISCIII. 2022-2024. Managment centre: FIBHULP

Clinical trials

- **Álvarez Maestro M.** Estudio clínico de fase 2b para evaluar la eficacia y seguridad de tar-200 en combinación con cetrelimab, tar-200 solo o cetrelimab solo en participantes con cáncer de vejiga no músculo-invasivo (cnvni) de alto riesgo que no responde a la terapia del baci.
Type/Phase: IIb
Sponsored by: Janssen Cilag International Nv
Signed date: 30/05/2023
- **Álvarez Maestro M.** Estudio fase 3, abierto, multicéntrico, aleatorizado para evaluar la eficacia y seguridad de tar-200 en combinación con cetrelimab frente al bacilo de calmette y guérin (bcg) intravesical en pacientes con cáncer de vejiga no músculo-invasivo de alto riesgo (hr-nmibc) sin tratamiento previo con el bcg.
Type/Phase: III
Sponsored by: Janssen Cilag International Nv Janssen Inc
Signed date: 10/05/2023

- **López Carrasco A.** Estudio prospectivo para evaluar el efecto de un probiótico sobre la composición de la microbiota y la inflamación en mujeres con endometriosis.
Type/Phase:
Sponsored by: Chemo Research S.L
Signed date: 13/06/2023
- **Armijo Suárez OM.** Insemination in patients with polycystic ovary syndrome: gestation rates using two stimulation patterns: letrozole vs gonadotropins.
Type/Phase: III
Sponsored by: Armijo Suárez Ónica María
Signed date: 03/11/2023
- **Iniesta Pérez S.** Estudio aleatorizado, doble ciego, controlado con placebo para confirmar el efecto positivo de fertibiome® (ligilactobacillus salivarius ps11610) sobre la microbiota del tracto genital femenino en parejas o mujeres con problemas de fertilidad.
Type/Phase: Producto Sanitario Sponsored by: Probi-search, S.L.
Signed date: 11/12/2023

Patents and trademarks

- **Hernández A, López A, Spagnolo E,** authors; FIBHULP, assignees; Brand name: EndoPaz: 018876162. 2023 May 17, 2023 September 27

