

Women and Perinatal Health

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DESCRIPTION

The Women and Perinatal Health Research Group is focused on the study of diseases derived from placental insufficiency, such as preeclampsia and growth restriction, and alterations of the fetal heart and neurodevelopment. The group is the coordinator of the framework of RICORS network entitled Primary Care Interventions to Prevent Maternal and Child Chronic Diseases of Perinatal and Developmental Origin, RD21/0012/0001 (ISCIII) and it has been recognized as a consolidated group recognized by the Agència de Gestió d'Ajuts Universitaris i de Recerca, AGAUR Generalitat de Catalunya (2021 SGR 01002).

MAIN LINES OF RESEARCH

- Prediction and prevention of complications arising from placental insufficiency, intrauterine growth restriction/preeclampsia (IUGR/PE).
- Placental insufficiency and maternal cardiovascular risk later in life.
- Development of predictive methods based on the Integration of pre and postnatal factors for the detection of abnormal neurodevelopment in congenital heart disease.
- Toxics and air pollution effects on pregnancy and fetal programming.
- Management of pelvic floor dysfunction: chronic pelvic pain, urinary incontinence, and pelvic organ prolapse.
- Maternal and fetal cardiovascular programming in assisted reproduction treatments (ART).
- Cardiovascular Health and ART outcomes.



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- COVID-19 and gestation.
- Innovative methods in delivery care.

SCIENTIFIC CHALLENGES

- To study new placental biomarkers for the diagnosis and prognosis of preeclampsia (PE) and intrauterine growth restriction (IUGR), aiming to generate future hypotheses on prevention targets and therapeutic interventions for these diseases.
- To determine the utility of new placental biomarkers (sFlt-1/PIGF ratio) in the diagnosis and prognosis of preeclampsia (PE) to change existing healthcare policies and improve maternal and neonatal health.
- To study new maternal cardiovascular risk biomarkers after experiencing placental insufficiency and explore preventive strategies to identify which mothers are at risk of long-term cardiovascular diseases.
- To study the role of placental insufficiency and hypoxia in congenital heart diseases to increase our understanding of the relationship between hypoxia-dependent placental morphogenesis, placental function, and effects on fetal oxygen metabolism.
- To identify new biomarkers detectable during fetal and neonatal stages that help predict postnatal neurological risk in congenital heart diseases.
- To evaluate the impact of maternal exposure to environmental factors on gestation, placental complications, and fetal neurodevelopment to evidence to support regulation and implementation of necessary interventions by health authorities.
- To evaluate the impact of Sars-Cov2 infection on gestation and the neonate.
- To conduct clinical research focused on improving obstetric care by implementing innovative solutions in the labor and postpartum process.
- Cruz Lemini, Monica Cristina. Impacto del ejercicio y la dieta mediterranea vs aspirina en la tasa de nacimientos vivos y programacion cardiovascular en la fertilizacion in vitro. PI20/01504. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 183.920,00 €.
- Llurba Olive, Elisa. Remodelado y disfunción cardíaca en pacientes con preeclampsia regulado por el ambiente anti-angiogénico: estudio clínico y experimental. PI19/00702. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 146.410,00 €.
- Llurba Olive, Elisa. Primary care interventions to prevent maternal and child chronic diseases of perinatal and developmental origin. RD21/0012/0001. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 245.080,00 €.
- Llurba Olive, Elisa. GRUP DE RECERCA EN MEDICINA PERINATAL I DE LA DONA. 2022 INV-1 00048. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2024. 66.217,84 €.
- Llurba Olive, Elisa. Evaluación del riesgo cardiovascular en mujeres jóvenes después de embarazo con o sin complicaciones placentarias (Estudio CARDIOMOM). PI22/00462. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 165.770,00 €.
- Llurba Olive, Elisa. Pérdidas reproductivas precoces: del malestar físico y emocional invisible al posible duelo personal, familiar y social. CC21-0185. Convocatoria Conecta: de la investigación a la práctica social 2022. Fundació La Caixa. Duration: 2023-2025. 7.150,00 €.
- Mora Hervas, Irene. Estudio multicéntrico sobre fijación a músculo elevador del ano en la colposacropexia laparoscópica (Estudio Multicéntrico FIMEA). PI21/00852. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 30.250,00 €.

GRANTS AWARDED

- Murcia Oliveras, Maria Teresa. Contratos Rio Hortega 2023. CM23/00270. Instituto de Salud Carlos III (ISCIII). Duration: 2024-2026. 65.000,00 €.

DOCTORAL THESES DEFENDED

- Garrido Giménez, Carmen. Implicación de los factores angiogénicos en el riesgo cardiovascular

ACTIVE GRANTS

- Cruz Lemini, Monica Cristina. Contractes Juan Rodés 2019. JR19/00047. Instituto de Salud Carlos III (ISCIII). Duration: 2020-2024. 180.000,00 €.



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de las mujeres con preeclampsia. 26/05/2023. Universitat Autònoma de Barcelona. Supervisors: Llurba Olivé, Elisa; Carreras Moratonas, Maria Elena; Alijotas Reig, Jaume. <http://hdl.handle.net/10803/690686>.

- Però García, Marta. Matrix: estudio de las propiedades biológicas de una matriz dérmica humana para su aplicación en cirugías reconstructivas del suelo pélvico. 29/06/2023. Universitat Autònoma de Barcelona. Supervisors: Porta Roda, Oriol; Llurba Olivé, Elisa. <http://hdl.handle.net/10803/690799>.

SCIENTIFIC PRODUCTION

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- Español P, RAMON N, Caruana P, Luna R, Soler C, Teixeira N, Rodríguez F, Gallardo A, Edwards M, Porta O, Gamez M, Sánchez O, Llurba E, Corchero JL, Cespedes MV. Dopamine receptors D1 and D2 show prognostic significance and potential therapeutic applications for endometrial cancer patients. *GYNECOLOGIC ONCOLOGY*. 2023; 176. DOI:10.1016/j.ygyno.2023.06.019. PMID:37437489. IF:4,700 (Q1/2D). Document type: Article.
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- Fons LB, Roda OP, Però M, Roca PF, González MS. Results of a Systematic Intensive Follow-Up of 259 Cases of Obstetric Anal Sphincter Injury. *International Journal Of Childbirth*. 2023; 13(3). DOI:10.1891/IJC-2022-0062. Document type: Article.
- Garrido C, Cruz M, Álvarez FV, Nan MN, Carretero F, Fernández A, Mora J, Sánchez O, García Á, Alijotas J, Llurba E, on behalf of the EuroPE Working G. Predictive Model for Preeclampsia Combining sFlt-1, PlGF, NT-proBNP, and Uric Acid as Biomarkers. *Journal of Clinical Medicine*. 2023; 12(2):431. DOI:10.3390/jcm12020431. PMID:36675361. IF:3,900 (Q2/4D). Document type: Article.
- Gonzalez R, Gonce A, Gil MD, Mazarico E, Ferriols E, Toro P, Llurba E, Saez E, Rodríguez MA, García L, López M, Santacruz B, Roman MA, Paya A, Alonso S, Cruz M, Pons C, Herrera LB, Chen HLY, Bardaji A, Quinto L, Menéndez C. Efficacy and safety of hydroxychloroquine for treatment of mild SARS-CoV-2 infection and prevention of COVID-19 severity in pregnant and postpartum women: A randomized, double-blind, placebo-controlled trial. *ACTA OBSTETRICIA ET GYNECOLOGICA SCANDINAVICA*. 2023; DOI:10.1111/aogs.14745. PMID:38098221. IF:4,300 (Q1/2D). Document type: Article.
- Jia Y-J, Ghi T, Pereira S, Gracia Perez A, Chandharan E. Pathophysiological interpretation of fetal heart rate tracings in clinical practice. *AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY*. 2023; 228(6). DOI:10.1016/j.ajog.2022.05.023. PMID:37270259. IF:9,800 (Q1/1D). Document type: Review.
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