


AREA 5 · Uro-nephrology and Experimental Surgery

## Women and Perinatal Health Research Group

	<b>Coordinator</b> Ljurma Olivé, Elisa (FGS) ellurba@santpau.cat	<b>Members</b> Cruz Lemini, Mónica C. (FGS) Domínguez Gallardo, Carla (FGS) Fernández Oliva, Antoni (FGS) Garrido Giménez, Carmen (FGS) Medina Mallen, María del Carmen (FGS) Però García, Marta (IR)	Polo Ramos, Ana María (FGS) Porta Roda, Josep Oriol (FGS) Rodríguez Sureda, Victor (external entity) Sánchez García, Olga (IR) Trilla Solà, Cristina (FGS) Ullmo, Johana (FGS) Zanini Mangialardi, Maria Julia (external entity)
--	--	---	--

### 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 post-natal factors for the detection of abnormal neurodevelopment in congenital heart diseases.
- ▶ Toxics and air pollution effects on pregnancy and foetal programming.
- ▶ Management of pelvic floor dysfunction: chronic pelvic pain, urinary incontinence and pelvic organ prolapse.
- ▶ Maternal and foetal cardiovascular programming in assisted reproduction treatments (ART).
- ▶ Cardiovascular health and ART outcomes.
- ▶ COVID-19 and pregnancy.

### Scientific Challenges

- ▶ To study novel placental biomarkers in the diagnosis and prognosis of preeclampsia (PE) and intrauterine growth restriction (IUGR) in order to generate future hypotheses for target prevention and therapeutic interventions for these disorders.
- ▶ To determine the usefulness of novel placental biomarkers (sFlt-1/PIGF ratio) in the diagnosis and prognosis of preeclampsia (PE) in order to modify policies and improve maternal and neonatal health.
- ▶ To study novel maternal cardiovascular risk biomarkers after placental insufficiency and to explore potential preventive strategies in order to identify mothers at risk for cardiovascular disease in later life.
- ▶ To develop biomarkers in foetal and neonatal life that help to predict postnatal neurological risk in congenital heart diseases.
- ▶ To evaluate the impact of maternal exposure to traffic-related air pollution on foetal development, in order to generate an evidence base to support the regulation and implementation of finely-targeted interventions and, in time, the inclusion of this impact in the next iteration of the global burden of diseases (GBD) attributable to ambient air pollution.
- ▶ To evaluate the impact of different interventions to improve cardiovascular health in an infertile population prior to in-vitro fertilization (IVF), live birth rate, maternal and foetal cardiovascular programming and perinatal outcome.
- ▶ To evaluate the impact of SARS-Cov-2 infection on maternal health, placental function, and pregnancy and neonatal outcomes.

### Collaborations

#### Collaborations with other IIB Sant Pau Groups

- ▶ Active collaboration with the Gynaecology and Obstetrics Service: Obdulia Alejos, Laura Gomila, Anna Olivella, Juan Parra.
- ▶ Active collaboration with Puigvert Foundation: Carlos Dosouto, Susana Peón and M. Jesús Saiz.
- ▶ Molecular Pathology of Gynecologic Cancer: Dra. Bárbara García-Valdecasas.
- ▶ Genome Instability and DNA Repair Syndromes: Dr. Jordi Surrallés.
- ▶ Gynecologic and Peritoneal Oncology Group: Dra. M. Virtudes Céspedes.
- ▶ Anaesthesiology: Dra. M. Victoria Moral, Batalla González, Astrid Maria.
- ▶ General and Digestive Surgery: Dr. Antonio Moral.
- ▶ Endocrinology, Diabetes and Nutrition: Dr. Didac Mauricio, Dra. Rosa Corcoy.

- ▶ Paediatrics: Dra. Susana Boronat, Gloria M. Fraga Rodríguez, Maria Josa Eritja, Elisenda Moliner Calderón.
- ▶ Clinical Epidemiology and Healthcare Services: Dr. Xavier Bonfill.
- ▶ Metabolic Bases of Cardiovascular Risk: Dr. Francisco Blanco, Dr. Jordi Ordóñez, Dra. Fina Mora, Dr. Álvaro García.
- ▶ Neuroradiology: Dra. Beatriz Gómez-Anson.

#### External Collaborations

##### International Collaborations

- ▶ Carmen Medina. PREDIGES. PATIA EUROPE, S.L. Duration: 2020-2022.
- ▶ Elisa Ljurma (Collaborator). Role of Placental Insufficiency and Hypoxia in Congenital Heart Defects. Principal investigator: Steven A. Fisher, M.D.; Professor of Medicine and Physiology S-012a HSF II, 20 Penn St. Univ of Maryland School of Medicine (Baltimore MD 212).

Hypothesis: There is an inter-relationship between mother and fetus in the genesis of CHD. Main objective: To develop new models to address these questions using genetically engineered mice is highly innovative and certainly will lead to new insights into the relationships between hypoxia-dependent placental morphogenesis, placental function and effects on oxygen metabolism in the fetus.

Elisa Llorba (Collaborator). Accuracy of clinical characteristics, biochemical and ultrasound markers in the prediction of preeclampsia: an Individual Patient Data (IPD) Meta-analysis. Principal Investigator: Shakila Thangaratnam, PhD; Professor in maternal and perinatal health at Queen Mary University of London, of Mile End Road, London, E1 4NS with administrative offices at QM Innovation Centre, 5 Walden Street, Whitechapel, (London E1 2EF) (the 'Recipient'). Main Objective: To develop, externally validate and update separate prediction models for (i) early (<34 weeks' gestation), (ii) late (<34 weeks) and (iii) any onset preeclampsia and to estimate the prognostic value of individual clinical, biochemical and ultrasound markers for predicting preeclampsia by IPD meta-analysis.

#### National Collaborations

- Maternal and Child Health and Development Research Network (SAMID Network). RD16/0022.
- Centro de Investigación Biomédica en RED en Enfermedades Raras (CIBERER). CB06/07/0027 (U719). PI: Dr. Eduard Gratacós.
- Centro de Medicina Maternofetal y Neonatal de Barcelona, Hospital Sant Joan de Déu - Hospital Clinic (BCNatal). Coordinator: Dra. M. Dolores Gómez-Roig.
- Barcelona Institute for Global Health (ISGlobal). Program "Air pollution and urban environment" (Dr. Payam Dadvanti) and "Childhood and environment" (Dr. Jordi Sunyer).
- Barcelona Institute for Global Health (ISGlobal). Maternal, Child and Reproductive Health Initiative. Campus Clinic.
- Carmen Medina (collaborator). Registro epidemiológico de COVID-19 gestantes. Fundación Investigación Biomédica Hospital Puerta de Hierro. Start date: 30/04/2020.
- Olga Sánchez (collaborator). Indicadors genòmics per a la predicció de la recurrencia i la metastasi en càncer endometrial. Principal investigator: M. Virtudes Céspedes; Co-PI: M. José Macías. Funding: La Marató de TV3. Duration: 01/01/2020-31/12/2022.
- Cristina Trilla (collaborator). Cribado secuencial de preeclampsia mediante el uso de marcadores angiogénicos en el primer trimestre (P19/00692). Principal Investigator: Daniel Oros. Funding: Instituto de Salud Carlos III. Duration: 01/01/2020-31/12/2022.
- Elisa Llorba, Carmen Garrido, Carla Domínguez, Antonio Fernández, Irene Ribera, M<sup>a</sup> Julia Zanini, Victor Rodríguez-Sureda and Olga Sánchez (Collaborators). Traffic-related air pollution and birth weight: the roles of noise, placental function, green space, physical activity, and socioeconomic status (FRONTIER). Principal Investigator: Dadvanti, Payam; Assistant Research Professor, Barcelona Institute for Global Health (ISGlobal) (Former CREAL); Co-PI: Jordi Sunyer, Barcelona Institute for Global Health (ISGlobal). Main objective: In this study, the investigators will recruit pregnant women in Barcelona and assess the effects of in-utero exposure to traffic-related pollution on birth weight, fetal growth trajectories, and placental function for each pregnancy. The investigators will estimate exposure to

several pollutants and transportation noise and evaluate the roles of socioeconomic status, green space, physical activity, diet, and stress. Funding: The Health Effects Institute (HEI), 17-1 Assessing Adverse Health Effects of Exposure to Traffic-Related Air Pollution, Noise, and Their Interactions With Socio-Economic Status. Duration: 01/05/2018 - 31/10/2022.

- Elisa Llorba, Carmen Garrido, Carla Domínguez, Antonio Fernández, Irene Ribera, M<sup>a</sup> Julia Zanini, Victor Rodríguez-Sureda and Olga Sánchez (Collaborators). Project: Pre-natal exposure to urban AIR pollution and pre- and post-Natal Brain development (AIR-NB). Principal Investigator: Jordi Sunyer, Barcelona Institute for Global Health (ISGlobal). Main objective: The overarching aim of AIR-NB is to evaluate the effect of pre-natal exposure to urban air pollution on pre- and post-natal brain development. The expected results will create an impulse to implement policy interventions that genuinely protect the health of urban citizens. Funding: European Research Council (ERC), Horizon 2020, ERC-2017-ADG. Duración: 01/01/2018-31/12/2022.
- Maternal and Infant Health and Development Network (SAMID Network).
- Elisa Llorba (Principal Investigator). RD16/0022/0015. Objective: The main objective is to study the different pathological processes, nutritional and environmental conditions of perinatal and postnatal period, by addressing the study of factors of prematurity, prevention and patient safety, environmental and pathogenetic factors, nutrition and child development as well as promoting research into new products and therapeutic procedures. It is also their aim to study the long-term consequences and its relationship with certain disorders of high prevalence in later stages of life, such as neuropsychiatric diseases, obesity and its complications. Collaborators: Carla Domínguez, Antonio Fernández, Irene Ribera, M<sup>a</sup> Julia Zanini, Olga Sánchez, Ana Polo.
- Elisa Llorba (Collaborator). The Banc de Sang i Teixits (Blood and Tissue Bank) is a public agency of the Catalan Department of Health whose mission is to guarantee the supply and proper use of human blood and tissue in Catalonia.
- Elisa Llorba (PI). Clinical Trial. NCT03536000. Fetal Cardiac Function Evaluation With aCMQ-Strain Fetal (STRAIN). Fundació Institut de Recerca de l'Hospital de la Santa Creu i Sant Pau (IIBSP-CMQ-2017-99). Duration: 2018-2020.
- Elisa Llorba (PI). Clinical Trial. NCT04163744. Effectiveness and Safety of Induction of Labour Using a Double Balloon Catheter (INDO-BA). Fundació Institut de Recerca de l'Hospital de la Santa Creu i Sant Pau (IIBSP-CRB\_2019-70). Duration: 2019-2021.
- Eduard Gratacós (PI). Elisa Llorba (collaborator). Clinical Trial. NCT04766866. sFlt1/PlGF and Selective Labor Induction to Prevent Preeclampsia at Term (PE37). Fundació Institut de Recerca de l'Hospital de la Santa Creu i Sant Pau (IIBSP-FIP-2019-37). Duration: 2020-2023.
- With industry:
  - Cook
  - Roche
  - Pfizer

#### Active Grants

- Elisa Llorba Olivé. Incorporación del ratio sFlt1/PlGF en el diagnóstico y clasificación de preeclampsia: Ensayo clínico randomizado (EuroPE estudio). P116/00375. Instituto de Salud Carlos III. Duration: 2017-2021. 92,500 €.
- Josep Oriol Porta Roda. Estudio de las propiedades biológicas de una matriz dérmica de origen humano para su aplicación en cirugía de corrección del prolapso de órganos pélvicos e incontinencia urinaria femenina. CONVENI BST 2017-3. Banc de Sang i Teixits. Duration: 2017-2021. 136,904 €.
- Elisa Llorba Olivé. Women and Perinatal Health Research Group. 2017 SGR 1267. Agència de Gestió d'Ajuts Universitaris i de Recerca. Duration: 2017-2021. 10,000 €.
- Elisa Llorba Olivé. Incorporación del ratio sFlt1/PlGF en el diagnóstico y clasificación de preeclampsia: Ensayo clínico randomizado (EuroPE estudio). P116/00375. Instituto de Salud Carlos III. Duration: 2017-2021. 92,500 €.
- Elisa Llorba Olivé. Red de salud materno-infantil y del desarrollo. RD16/0022/0015. Instituto de Salud Carlos III. Duration: 2017-2021. 178,530 €.
- Elisa Llorba Olivé. Remodelado y disfunción cardíaca en pacientes con preeclampsia regulado por el ambiente anti-angiogénico: estudio clínico y experimental. P19/00702. Instituto de Salud Carlos III. Duration: 2020-2022. 121,000 €.

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

## Grants Awarded in 2020

- Monica Cristina Cruz Lemini. Impacto del Ejercicio y la Dieta Mediterránea vs Aspirina en la tasa de nacimientos vivos y programación cardiovascular en la Fertilización In Vitro: un Estudio Aleatorizado. PI20/01504. Instituto de Salud Carlos III. Duration: 2021-2023. 152,000 €.

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

## Awards

- Carmen Garrido-Giménez. Young investigator award winner. Obstetrics: C. Garrido-Giménez, M. Mendoza, M. Cruz-Lemini, L. Galian-Gay, O. Sánchez, J. Alijotas-Reig, E. Llorba. Angiogenic factors and long-term cardiovascular risk in women that developed pre-eclampsia during pregnancy. OC17.01. *Ultrasound in Obstetrics & Gynecology* 2020; 56 (Suppl. 1): 1-55. <https://doi.org/10.1002/uog.22321>. <https://www.isuog.org/about-us/awards/scientific-awards/2020-congress-awards.html>

## Doctoral Theses

- Sandra Martínez González. Metabolomic analysis of oxidative stress and inflammation biomarkers during chemotherapy treatment in pregnant women with breast cancer and their offspring. Universitat Autònoma de Barcelona. Duration: Elisa Llorba Olivé. Date of defense: 1/12/2020.

## Scientific Production

Total Impact Factor: 176.623 · Mean Impact Factor: 10.390

Blanch Fons L, Estadella Tamiel J, Simo Gonzalez M, Rams Llop N, Longo A, Porta Roda O, Use of an Intrauterine Foley Probe for Ultrasound-Assisted Hysteroscopic Resection of Complete Uterine Septum (2020) *J MINIM INVAS GYN*, 27 (3), 581-. **IF: 3.1070**

Boll LM, Khamirchi R, Alonso L, Llorba E, Pozo OJ, Miri M, Dadvand P, Prenatal greenspace exposure and cord blood cortisol levels: A cross-sectional study in a middle-income country (2020) *ENVIRON INT*, 144, -. **IF: 7.5770**

Crovetto F, Crispi F, Llorba E, Figueras F, Gómez-Roig MD, Gratacós E. Seroprevalence and presentation of SARS-CoV-2 in pregnancy. *Lancet*. 2020 Aug 6;50140-6736(20)31714-1. PMID: 32771084. **IF: 60.392**

García-Manau P, Mendoza M, Bonacina E, Garrido-Giménez C, Fernández-Oliva A, Zanini J, Catalan M, Tur H, Serrano B, Carreras E. Soluble fms-like tyrosine kinase to placental growth factor ratio in different stages of early-onset fetal growth restriction and small for gestational age. *Acta Obstet Gynecol Scand*. 2020 Aug 29. PMID: 32860218. **IF: 2.770**

Garrido-Giménez C, Mendoza M, Cruz-Lemini M, Galian-Gay L, Sánchez-García O, Granato C, Rodríguez-Sureda V, Rodríguez-Palomares J, Carreras-Moratonas E, Cabero-Roura L, Llorba E, Alijotas-Reig J, Angiogenic Factors and Long-Term Cardiovascular Risk in Women That Developed Preeclampsia during Pregnancy (2020) *HYPERTENSION*, 1808-1816. **IF: 7.7130**

Gracia-Perez-Bonfils A, Martínez-Perez O, Llorba E, Chandhraran E. Fetal heart rate changes on the cardiocardiogram trace secondary to maternal COVID-19 infection. *Eur J Obstet Gynecol Reprod Biol*. 2020 Jul 2;252:286-293. PMID: 32645644. **IF: 1.868**

González R, García-Otero L, Pons-Duran C, Marbán-Castro E, Goncé A, Llorba E, Del Mar Gil M, Rodríguez-Zambrano MA, Chen H, Ramírez M, Bardaji A, Menéndez C. Hydroxychloroquine efficacy and safety in preventing SARS-CoV-2 infection and COVID-19 disease severity during pregnancy (COVID-Preg): a structured summary of a study protocol for a randomised placebo controlled trial. *Version 2. Trials*. 2020 Jul 2;21(1):607. PMID: 32616063. **IF: 1.975**

Llorba E, Bella M, Burgos J, Mazarico E, Gómez-Roig MD, De Diego R, Martínez-Astorquiza T, Alijotas-Reig J, Sánchez-Durán MA, Sánchez O, Carreras E, Cabero L. Early Prophylactic Enoxaparin for the Prevention of Preeclampsia and Intrauterine Growth Restriction: A Randomized Trial. *Fetal Diagn Ther*. 2020;47(11):824-833. PMID: 33472201. **IF: 2.095**

Luzarraga Aznar A, Delgado-Morell A, Rovira Negre R, Fernández-Oliva A, Llorba Olivé E. Ovarian cancer as an imitator of severe pre-eclampsia: role of angiogenic factors. *Ultrasound Obstet Gynecol*. 2020 Dec 11. doi: 10.1002/uog.23569. Online ahead of print. PMID: 33314427. **IF: 5.571**

Mesa MD, Loureiro B, Iglesia I, Fernandez Gonzalez S, Llorba Olivé E, García Algar O, Solana MJ, Cabero Perez MJ, Sainz T, Martínez L, Escu-

der-Vieco D, Parra-Llorca A, Sánchez-Campillo M, Rodríguez Martínez G, Gómez Roig D, Perez Gruz M, Andreu-Fernández V, Clotet J, Sailer S, Iglesias-Platas I, López-Herce J, Aras R, Pallás-Alonso C, de Pipaon MS, Vento M, Gormaz M, Larqué Daza E, Calvo C, Cabañas F. The Evolving Microbiome from Pregnancy to Early Infancy: A Comprehensive Review. *Nutrients*. 2020 Jan 2;12(1):133. doi: 10.3390/nu12010133. PMID: 31906588. **IF: 4.546**

Panchaud A, Favre G, Pomar L, Vouga M, Aebi-Popp K, Baud D; COVI-Preg group (Mónica Cruz-Lemini, M Carmen Medina). An international registry for emergent pathogens and pregnancy. *Lancet*. 2020 May 9;395(10235):1483-1484. doi: 10.1016/S0140-6736(20)30981-8. PMID: 32353329. **IF: 60.392**

Quiroz Y, Llorens E, Novoa R, Motta G, Llorba E, Porta O, Parra J, Da Silva L, Palou J, Bujons A. High risk pregnancy in patients with extrophy-epispadia complex: Uro-gynecological characteristics and management Embarazo de alto riesgo en pacientes con complejo extrofia-epispadias: características uro-ginecológicas y manejo (2020) *ARCH ESP UROL*, 73 (9), 813-818. **IF: 0.3950**

Rial-Crestelo M, García-Otero L, Canciani A, Giannone M, Escazzocchio E, Biterna A, Ferriols E, Hernandez JL, Lubusky M, Kolarova V, Krofta L, Vojtěch J, Zohav E, Krajen K, Cruz-Martínez R, Cruz-Lemini M, Parra-Cordero M, Socías P, Crispi F, Lopez M, Gratacós E, Figueras F; Ratio 37 study group. Prescriptive Reference Standards of Third-Trimester Cerebroplacental Ratio and Its Physiological Determinants. *Fetal Diagn Ther*. 2020 Jul 14:1-8. PMID: 32663828. **IF: 2.095**

Rogelio Cruz-Martínez; Alma Gamez-Varela; Mónica Cruz-Lemini; Miguel Rodríguez-Martínez; Jonahán Luna-García; Hugo Lopez Briones; Felipe Chavelas-Ochoa; E Chávez-González; K Aguilar-Vidales; J Chávez-Vega; Andrea Castelo-Vargas; P Rivera-Carrillo. Doppler changes in the umbilical artery, middle cerebral artery, cerebroplacental ratio and ductus venosus during open fetal microneurosurgery for intrauterine myelomeningocele repair. *Ultrasound in Obstetrics & Gynecology*. Wiley, 2020. PMID: 32798234. **IF: 5.571**

Trilla C, Medina M.C., Parra J, Llorba E, Espinos J.J., Inter- And Intraobserver Agreement in First Trimester Ultrasound Evaluation of Placental Biometry (2020) *FETAL DIAGN THER*, 47 (11), 834-840. **IF: 2.0950**

Villalain C, Herraiz I, Valle L, Mendoza M, Delgado JL, Vázquez-Fernández M, Martínez-Urriarte J, Melchor I, Caamiña S, Fernández-Oliva A, Villar OP, Galindo A. Maternal and Perinatal Outcomes Associated With Extremely High Values for the sFlt-1 (Soluble fms-Like Tyrosine Kinase 1)/PlGF (Placental Growth Factor) Ratio. *J Am Heart Assoc*. 2020 Apr 7;9(7):e015548. PMID: 32248765. **IF: 4.605**

Zanini MJ, Dominguez C, Fernandez-Oliva T, Sanchez O, Toda M.T., Foraster M., Dadvand P, Llorba E, Urban-Related Environmental Exposures during Pregnancy and Placental Development and Preeclampsia: a Review (2020) *CURR HYPERTENS REP*, 22 (10), 81-. **IF: 3.8560**

## Other Publications

- Medina, M. Carmen (collaborator). Registro Español de Cribado de COVID-19 en Gestantes Asintomáticas. *Rev Esp Salud Pública*. 2020; Vol. 94: 18 September e1-24. COVID/00020 - Convocatoria "SARS-COV-2 y la enfermedad COVID-19. Instituto de Salud Carlos III and FEDER.
- Crovetto, Francesca; Crispí, Fatima; Llorba, Elisa; Figueras, Francesc; Gomez-Roig, Maria Dolores; Gratacos, Eduard. Seroprevalence and clinical spectrum of SARS-CoV-2 infection in the first versus third trimester of pregnancy. doi: <https://doi.org/10.1101/2020.06.17.20134098>. Preprint. <https://www.medrxiv.org/content/10.1101/2020.06.17.20134098v1>
- Figueras, Francesc; Llorba, Elisa; Martínez Portilla, Raigam Jafet; Mora, Josefina; Crispí, Fátima; Gratacós, Eduard. COVID-19 causing HELLP-like syndrome in pregnancy and role of angiogenic factors for differential diagnosis. July 2020. DOI: 10.1101/2020.07.10.20133801. Preprint. These data were presented in a Virtual Symposium on COVID-19 and Pregnancy on 17 April: 2020: <http://medicinafetalbarcelona.org/simposiocovid19/>
- Espinós, Juan J; Solà, Ivan; Valli, Claudia; Polo, Ana; Ziolkowska, Lucja; Martínez-Zapata, M. José. The Effect of Lifestyle Intervention on Pregnancy and Birth Outcomes on Obese Infertile Women: A Systematic Review and Meta-Analysis. *Int J Fertil Steril*. Apr 2020, 14 (1), 1-9.
- Ullma, J; Lemini, M Cruz; Ramos, A; Garrido, C; Llorba Olivé, E. Protocol d'atenció Sars-CoV2 a la pacient obstètrica. Protocol (online) 02/12/2020.
- Laura Balcells; Juan María Adelantado; Carmen Vega Medina; Carmen Medina Mallén. Manejo de la anemia durante la gestación. Protocol. Date of drafting: 22/09/2020.
- Medina Mallén, Carmen. Hemorragia posparto. Prevención y tratamiento. Protocol. Date of drafting: 01/02/2020.

## Books or Chapters with ISBN

- Llorba E., De Paco K. Guías de asistencia práctica de la gestación: trastornos hipertensivos de la gestación. Sociedad Española de Ginecología y Obstetricia. ISBN: 978-84-617-7587-3.

## Diffusion Activities

### Dissemination Activities to Society

- <https://inatal.org/charla-covid19.html>
- <https://inatal.org/noticias/noticias-cientificas/607-auladona-un-nuevo-canal-de-cursos-online-para-la-salud-femenina.html>
- <https://inatal.org/noticias/el-articulo-del-especialista/604-a-que-se-refiere-el-termino-violencia-obstetrica-verdades-y-mentiras.html>
- <https://inatal.org/el-embarazo/consultas/el-trabajo/603-como-afectan-las-condiciones-de-trabajo-al-embarazo.html>
- <https://inatal.org/el-embarazo/consultas/viajes/602-viajar-en-avion-durante-el-embarazo-es-seguro.html>
- <https://inatal.org/noticias/podcasts/601-entrevista-doctora-elisa-llorba.html>
- <https://inatal.org/noticias/el-articulo-del-especialista/597-coronavirus-y-lactancia-materna-son-compatibles.html>
- <https://inatal.org/noticias/el-articulo-del-especialista/582-la-induccion-al-parto-verdades-y-mentiras.html>
- <https://inatal.org/noticias/reportajes/529-predecir-la-preeclampsia-un-avance-que-reduce-la-mortalidad-materna.html>
- <https://inatal.org/noticias/el-articulo-del-especialista/606-screening-de-preeclampsia-en-primer-trimestre.html>
- Dra. Elisa Llorba. Primera Jornada online Parto respetado y violencia reproductiva. 16/10/2020.

### Scientific Dissemination

#### National Congresses

- Carmen Medina. Diabetes gestacional: población de riesgo, complicaciones embrionarias, parto o cesárea y puerperio. Asociación de Ginecólogos y Obstetras de Castellón. Castellón, Spain. 27 November 2020.

#### International Congresses

- Marta Bailón Queinuga; Carmen Medina Mallén; Carmen Garrido Giménez; Anna Mundó Fornell; Elisa Llorba Olive. Induction of labor using double balloon catheter (CRB-Cook) versus prostaglandins (misoprostol and dinoprostone). Poster. BIRTH Clinical Challenges in Labor and Delivery 2020, 6th edition. Valencian Community, Spain, 10-17/10/2020.
- Marta Bailón Queinuga; Carmen Medina Mallén; Carmen Garrido Giménez; Anna Mundó Fornell; Elisa Llorba Olive. Safety of the double balloon catheter (CRB-Cook\*) for cervical ripening in outpatient care and evaluation of patient's satisfaction. Poster. BIRTH Clinical Challenges in Labor and Delivery 2020, 6th edition. Valencian Community, Spain, 10-17/10/2020.
- Mónica Cruz-Lemini. Ecosardiografía fetal para el obstetra. Oral communication. Congreso virtual y XLVII Congreso de Ginecología y Obstetricia de Guatemala. 5 November 2020.
- ISUOG Virtual World Congress on Ultrasound in Obstetrics and Gynecology. 16-18 October 2020.
- C. Domínguez Gallardo, N. García, M. Cruz-Lemini, A. Fernández-Oliva, C. Trilla, C. Medina, I. Ribera, J. Parra, E. Llorba. Fetal cardiac function evaluation with fetal a CMQ-strain: feasibility and reproducibility. VP15.16. Ultrasound in Obstetrics & Gynecology 2020; 56 (Suppl. 1): 57-378. <https://doi.org/10.1002/uog.22560>
- C. Trilla, C. Medina, J. Parra, J. Espinós, E. Llorba. Inter- and intra-observer agreement in first trimester ultrasound evaluation of placental biometry. VPS1.06. Ultrasound in Obstetrics & Gynecology 2020; 56 (Suppl. 1): 57-378. <https://doi.org/10.1002/uog.223213>
- C. Garrido-Giménez, M. Mendoza, M. Cruz-Lemini, L. Galian-Gay, O. Sánchez, J. Alijotas-Reig, E. Llorba. Angiogenic factors and long-term cardiovascular risk in women that developed pre-eclampsia during pregnancy. OC17.01. Ultrasound in Obstetrics & Gynecology 2020; 56 (Suppl. 1): 1-55. <https://doi.org/10.1002/uog.22321>.
- F. Crovetto, F. Crispí, R. Pascal, M. Larroya Sola, M. Cantalops, M. Camacho, I. Casas, M. Tortajada, A. Cahuana, M. Valdes-Bango Curell, D. Boada, I. Mercade, E. Casals, M. Cruz-Lemini, M. López, A. Arranz, F. Figueras, M. Collado, E. Llorba, M. Gómez-Roig. VP45.16. COVID-19 in pregnancy: seroprevalence, clinical spectrum, impact on pregnancy outcomes and influence of microbiota in clinical severity - a population-based study in Spain. Ultrasound in Obstetrics & Gynecology 2020; 56 (Suppl. 1): 57-378. <https://doi.org/10.1002/uog.23047>

- ▶ A.M. Hawkins-Villarreal, A. Goncá, M. Valdes-Bango, Curell, L. Ribera, L. Guirado, M. Cruz-Lemini, C. Paules, E. Antolin, F. Crovetto, K. Castillo, M. Salvia, E. Eixarch, F. Crispí, F. Figueras, E. Gratacós, M. López. VP45.23. Fetal sonographic follow-up after maternal COVID-19 infection: is there a matter of concern? *Ultrasound in Obstetrics & Gynecology* 2020; 56 (Suppl. 1): 57–378. <https://doi.org/10.1002/uog.23054>
- ▶ R. Villalobos-Gómez, M. Cruz-Lemini, J. Luna-García, I. Juárez-Martínez, R. Cruz-Martínez. VP17.09. Heterotaxy syndromes: first fetal case series in Mexico. *Ultrasound in Obstetrics & Gynecology* 2020; 56 (Suppl. 1): 57–378. <https://doi.org/10.1002/uog.22596>.
- ▶ M. Rial Crestelo, M. Lubusky, L. Krofta, A. Kajdy, E. Ferriols, M. Parra-Cordero, E. Zohav, M. Cruz-Lemini, F. Figueras. Impact of maternal physiological characteristics on UA and MCA fetal Doppler near term within a randomised controlled trial. VP37.10. *Ultrasound in Obstetrics & Gynecology* 2020; 56 (Suppl. 1): 57–378. <https://doi.org/10.1002/uog.22907>

#### Meetings/Seminars

- ▶ Elisa Lurba (speaker). Preeclampsia like-syndrome in Sars-Cov2 pregnant women: diferencial diagnosis. Scientific Retreat 2020. Zambón and Sanofi Genzyme. Institut de Recerca de Sant Pau (17/12/2020).
- ▶ Carmen Medina (speaker). Master Class Balón de Cook. Hospital de la Santa Creu i Sant Pau, Barcelona, 27/07/2020–28/07/2020.
- ▶ Carmen Medina (invited talk). Actualitzacions en obstetrícia i ginecologia. Protocol del maneig de l'anèmia a ginecologia i obstetrícia. Paper del ferro Carboximaltosa. Hospital de la Santa Creu i Sant Pau, Barcelona, 01/10/2019–10/06/2020.

- ▶ Mónica Cruz-Lemini (invited talk). ABC de la valoración ecocardiográfica fetal básica para el obstetra. 1º Curso Internacional Virtual de la Región VI. México, 9/07/2020.
- ▶ Mónica Cruz-Lemini (invited talk). Diagnóstico de cardiopatías fetales en embarazadas diabéticas. Taller de diagnóstico prenatal. Puebla, México, 3/06/2020.

#### Teaching Activity

- ▶ Carmen Medina. L'aprenentatge actiu. Com aplicar-ho a la universitat? Universitat Autònoma de Barcelona, 9/12/2020.
- ▶ Carmen Medina. Atención integral a la gestante con preeclampsia grave (módulo I, II y III). Hospital de la Santa Creu i Sant Pau, Barcelona, 23/11/2020–25/11/2020.
- ▶ Carmen Medina. Diabetes pregestacional. Actualización del protocolo. Actualitzacions en obstetrícia i ginecologia. Hospital de la Santa Creu i Sant Pau, Barcelona, 29/9/2020–9/6/2021.
- ▶ Carmen Medina (teacher). Treu-li tot el suc al campus virtual UAB. Universitat Autònoma de Barcelona, 22/05/2020.
- ▶ Cristina Trilla (teacher). Curso de cribado en diagnóstico prenatal. Hospital de la Santa Creu i Sant Pau, Barcelona, 11/03/2020–12/03/2020.