



Research Group on Anesthesiology and Reanimation Consolidated group



<http://www.anestesiaticlinicovalencia.org/>

Group members

Principal investigator

Francisco Javier Belda Nácher
Hospital. University

Collaborating researchers

Marina Soro Domingo. Hospital. University
Gerardo Aguilar Aguilar. Hospital
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José García de la Asunción. Hospital
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Mario de Fez Barberá. Hospital
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Andrea Gutiérrez Valcárcel. Hospital
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Ernesto Pastor Martínez. Hospital
Jaume Puig Bernabéu. Hospital
Ana Mugarra Llopis. Hospital
Laura Reviriego Agudo. Hospital
Estefanía Gracia Ferrandiz. Hospital
Cristina Crisán Ovidiu. Hospital

Strategic aims

- The effects of advanced monitoring on hemodynamic management in critically ill patients.
- Open lung approach for the acute respiratory distress syndrome.
- Stratification and outcome of acute respiratory distress syndrome.
- Recommendations on invasive candidiasis in patients with complicated intra-abdominal infection and surgical patients with ICU extended stay.
- Pharmacokinetics of anidulafungin during venovenous extracorporeal membrane oxygenation.

Main lines of research

- Oxidative stress and protection of organs in ischemia-reperfusion surgery.
- Study of hyperglycemia and aldose reductase-mediated mitochondrial dysfunction and apoptosis in platelets in critical patients.
- Ventilatory and pharmacological strategies to decrease organ damage in the lungs associated with mechanical ventilation in healthy and injured lungs.
- Development of hemodynamic monitoring and its application in the field of patients undergoing surgery or admitted to critical care units.
- Study and development of methods of detection of infections, especially fungal and virological, and how to prevent them.
- Study and development of therapeutic drug monitoring (TDM) to describe antimicrobials pharmacokinetics (PK) and determination of minimum inhibitory concentration (MIC).
- Development of new strategies and drugs for pain treatment.



Emerging Researcher

Carlos Ferrando Ortola

Some of the ongoing research lines in our group are: 1. Role of anaesthetics in the inflammatory response in anaesthesia and critical care patients. 2. Strategies to optimize and individualize intraoperative ventilatory management (precision medicine) 3. Role of the perioperative ventilatory strategies in postoperative complications. 4. Role of perioperative supplemental oxygen in postoperative complications.

• PUBLICATIONS

Number of articles	IF	Average IF
33	158,71	4,80
National collaborations	International collaborations	Corresponding author
19	18	8

SELECTED PUBLICATIONS

1. Aguilar G, Navarro D. Cytomegalovirus in Patients in the Intensive Care Unit. *JAMA Internal Medicine*. 2017 Oct 1; 177 (10): 1542-1543. IF: 16,538
2. Ferrando C, Romero C, Tusman G, Suarez-Sipmann F, Canet J, Dosdá R, Valls P, Villena A, Serralta F, Jurado A, Carrizo J, Navarro J, Parrilla C, Romero JE, Pozo N, Soro M, Villar J, Belda FJ. The accuracy of postoperative, non-invasive Air-Test to diagnose atelectasis in healthy patients after surgery: a prospective, diagnostic pilot study. *BMJ Open*. 2017; 29 (7): e015560. IF: 2,369
3. Kahan BC, Koulenti D, Arvaniti K, Beavis V, Campbell D, Chan M, Moreno R, Pearse RM, International Surgical Outcomes Study (ISOS) group. Critical care admission following elective surgery was not associated with survival benefit: prospective analysis of data from 27 countries. *Intensive Care Medicine*. 2017 Jul; 43 (7): 971-979. IF: 12,015
4. Maas AIR, Menon DK, Adelson PD, Andelic N, Bell MJ, Belli A, Bragge P, Brazinova A, Büki A, Chesnut RM, Citerio G, Coburn M, Cooper DJ, Crowder AT, Czeiter E, Czosnyka M, Diaz-Arrastia R, Dreier JP, Duhaime AC, Ercole A, van Essen TA, Feigin VL, Gao G, Giacino J, Gonzalez-Lara LE, Gruen RL, Gupta D, Hartings JA, Hill S, Jiang JY, Ketharanathan N, Kom-



panje EJO, Lanyon L, Laureys S, Lecky F, Levin H, Lingsma HF, Maegele M, Majdan M, Manley G, Marsteller J, Mascia L, McFadyen C, Mondello S, Newcombe V, Palotie A, Parizel PM, Peul W, Piercy J, Polinder S, Puybasset L, Rasmussen TE, Rossaint R, Smielewski P, Söderberg J, Stanworth SJ, Stein MB, von Steinbüchel N, Stewart W, Steyerberg EW, Stocchetti N, Synnot A, Te Ao B, Tenovuo O, Theadom A, Tibboel D, Videtta W, Wang KKW, Williams WH, Wilson L, Yaffe K; IntBIR Participants and Investigators. Traumatic brain injury: integrated approaches to improve prevention, clinical care, and research. *Lancet Neurology*. 2017 Dec; 16 (12): 987-1048. IF: 26,284

5. García-de-la-Asunción J, Bruno L, Pérez-Griera J, Galán G, Morcillo A, Wins R, García-Del-Olmo E, Guijarro R, Sarriá B, Martí F, Soro M, Belda FJ. Remote Ischemic Preconditioning Decreases Oxidative Lung Damage After Pulmonary Lobectomy: A Single-Center Randomized, Double-Blind, Controlled Trial. *Anesthesia and Analgesia*. 2017 Aug; 125 (2): 499-506. IF: 4,014

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Title: *Reducción de la complicaciones postoperatorias y de la estancia hospitalaria con una estrategia perioperatoria individualizada de ventilación de protección pulmonar*

Principal Investigator: Carlos Ferrando Ortola and Marina Soro Domingo

Funding Body: *European Society of Anaesthesiology (ESA)*

Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*

Duration: 2015-2017

Total budget: 30.000€

Reference: PI14/00829

Title: *Reducción de la complicaciones postoperatorias y de la estancia hospitalaria con una estrategia perioperatoria individualizada de ventilación de protección pulmonar. Estudio comparativo, prospectivo*

Principal Investigator: Carlos Ferrando Ortola

Funding body: *Instituto de Salud Carlos III*

Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*

Duración: 2015-2017

Total budget: 108.250€

Title: *Individualized perioperative open-lung ventilatory strategy with high versus conventional inspiratory oxygen fraction (iPROVE-O2) and its effects on surgical site infection*

Principal Investigator: Carlos Ferrando Ortola

Funding body: *Air Liquide Santé International*

Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*

Duración: 2017

Total budget: 132.324,94€

• THESIS

Thesis title: *Estudio del estrés oxidativo en pacientes sometidos a lobectomía pulmonar*

Doctoral candidate: Eva García del Olmo

Director(s): José García De La Asunción, Antonio Arnau Obrer, Ricardo Guijarro Jorge

Date of the defense: 24/07/2017

Grade: *Sobresaliente "cum laude"*

Thesis title: *Estudio de validación de pulsioximetría como método diagnóstico no invasivo de atelectasias tras anestesia general*

Doctoral candidate: Carolina Soledad Romero García

Director(s): Javier Belda Nácher, Marina Soro Domingo, Carlos Ferrando Ortola

Date of the defense: 27/10/2017

Grade: *Sobresaliente "cum laude"*