

1. Datos de Contacto:

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Anexos:

2. Líneas de Investigación:

- 1) Protocolos de reanimación en shock séptico
- 2) Monitoreo multimodal de la perfusión tisular
- 3) Patogenia de la hiperlactatemia persistente
- 4) Impacto de la modulación adrenérgica en la perfusión en shock séptico

3. Proyectos de Investigación:

2010 - 2012

Investigador Principal Proyecto FONDECYT 1100610. Effects of dobutamine on microcirculation, regional and peripheral perfusion in hyperdynamic septic shock patients

2013 -2015

Investigador Principal Proyecto FONDECYT 1130200. Effects of sustained hyperadrenergia and adrenergic modulation on non-hypoxic and hypoxic determinants of persistent hyperlactatemia in an endotoxic shock sheep model.

4. Publicaciones:

Journals (ISI-PubMed)

Hernandez G, Castro R, Romero C, De la Hoz C, Angulo D, Aranguiz I, Larrondo J, Bujes A, Bruhn A. Persistent sepsis-induced hypotension without hyperlactatemia: Is it really septic shock? J Crit Care 2011; 26:435.e9-14.

Hernandez G, Pedreros C, Veas E, Bruhn A, Romero C, Rovegno M, Neira R,

Bravo S, Castro R, Kattan E, Ince C. Evolution of peripheral vs metabolic perfusion parameters during septic shock resuscitation. A clinical-physiologic study. *J Crit Care* 2012; 27:283-288.

Bugedo G, Bruhn A, Regueira T, Romero C, Retamal J, Hernandez G. Positive end-expiratory pressure increases strain in patients with ALI/ARDS. *Rev Bras Ter Intensiva* 2012; 24:43-51.

Hernandez G, Bruhn A, Castro R, Regueira T. The holistic view on perfusion monitoring in septic shock. *Curr Opin Crit Care* 2012 Jun; 18:280-286.

Hernandez G, Bruhn A, Castro R, Pedreros C, Rovegno M, Kattan E, Veas E, Fuentealba A, Regueira T, Ruiz C, Ince C. Persistent Sepsis-Induced Hypotension without Hyperlactatemia: A Distinct Clinical and Physiological Profile within the Spectrum of Septic Shock. *Crit Care Res Pract* 2012; 2012:536852. Epub 2012 Apr 18.

Hernandez G, Regueira T, Bruhn A, Castro R, Rovegno M, Fuentealba A, Veas E, Berrutti D, Florez J, Kattan E, Martin C, Ince C. Relationship of systemic, hepatosplanchnic, and microcirculatory perfusion parameters with 6-hour lactate clearance in hyperdynamic septic shock patients: an acute, clinical-physiological, pilot study. *Ann Intensive Care* 2012; 2:44.

Ruiz C, Hernandez G, Andresen M, Ince C, Bruhn A. Mini-report: Microcirculatory flow abnormalities in a patient with severe hyperviscosity syndrome. *Clin Hemorheol Microcirc* 2013 Jan 1; 54:33-38. doi: 10.3233/CH-2012-1562.

Hernandez G, Boerma EC, Dubin A, Bruhn A, Koopmans M, Edul VK, Ruiz C, Castro R, Pozo MO, Pedreros C, Veas E, Fuentealba A, Kattan E, Rovegno M, Ince C. Severe abnormalities in microvascular perfused vessel density are associated to organ dysfunctions and mortality and can be predicted by hyperlactatemia and norepinephrine requirements in septic shock patients. *J Crit Care*. 2013 Aug; 28:538.e9-538.e14. doi: 10.1016/j.jcrc.2012.11.022.

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Hernandez G, Bruhn A, Ince C. Microcirculation in sepsis: New perspectives. *Curr Vasc Pharmacol* 2013 Mar 1; 11:161-9.

Hernandez G, Bruhn A, Luengo C, Regueira T, Kattan E, Fuentealba A, Florez J, Castro R, Aquevedo A, Pairumani R, McNab P, Ince C. Effects of dobutamine on systemic, regional and microcirculatory perfusion parameters in septic shock: a randomized, placebo-controlled, double-blind, crossover study. *Intensive Care Med.* 2013; 39:1435-1443. doi: 10.1007/s00134-013-2982-0. Epub 2013 Jun 6.

Ospina-Tascón GA, Bautista-Rincón DF, Umaña M, Tafur JD, Gutiérrez A, García AF, Bermúdez W, Granados M, Arango-Dávila C, Hernández G. Persistently high venous-to-arterial carbon dioxide differences during early resuscitation are associated with poor outcomes in septic shock. *Crit Care.* 2013 Dec 13;17(6):R294

Hernandez G, Luengo C, Bruhn A, Kattan E, Friedman G, Ospina-Tascon GA, Fuentealba A, Castro R, Regueira T, Romero C, Ince C, Bakker J. When to stop septic shock resuscitation: clues from a dynamic perfusion monitoring. *Ann Intensive Care.* 2014 Oct 11;4:30.

Timsit JF, Citerio G, Bakker J, Bassetti M, Benoit D, Cecconi M, Curtis JR, Hernandez G, Herridge M, Jaber S, Joannidis M, Papazian L, Peters M, Singer P, Smith M, Soares M, Torres A, Vieillard-Baron A, Azoulay E. Year in review in *Intensive Care Medicine* 2013: III. Sepsis, infections, respiratory diseases, pediatrics. *Intensive Care Med.* 2014 Apr;40(4):471-83

Azoulay E, Citerio G, Bakker J, Bassetti M, Benoit D, Cecconi M, Curtis JR, Hernandez G, Herridge M, Jaber S, Joannidis M, Papazian L, Peters M, Singer P, Smith M, Soares M, Torres A, Vieillard-Baron A, Timsit JF. Year in review in *Intensive Care Medicine* 2013: II. Sedation, invasive and noninvasive ventilation, airways, ARDS, ECMO, family satisfaction, end-of-life

care, organ donation, informed consent, safety, hematological issues in critically ill patients. *Intensive Care Med.* 2014 Mar;40(3):305-19

Citerio G, Bakker J, Bassetti M, Benoit D, Cecconi M, Curtis JR, Hernandez G, Herridge M, Jaber S, Joannidis M, Papazian L, Peters M, Singer P, Smith M, Soares M, Torres A, Vieillard-Baron A, Timsit JF, Azoulay E. Year in review in *Intensive Care Medicine* 2013: I. Acute kidney injury, ultrasound, hemodynamics, cardiac arrest, transfusion, neurocritical care, and nutrition. *Intensive Care Med.* 2014 Feb;40(2):147-59

Ospina-Tascón GA, Umaña M, Bermúdez W, Bautista-Rincón DF, Hernandez G, Bruhn A, Granados M, Salazar B, Arango-Dávila C, De Backer D. Combination of arterial lactate levels and venous-arterial CO₂ to arterial-venous O₂ content difference ratio as markers of resuscitation in patients with septic shock. *Intensive Care Med.* 2015 May;41(5):796-805

Tapia P, Soto D, Bruhn A, Alegría L, Jarufe N, Luengo C, Kattan E, Regueira T, Meissner A, Menchaca R, Vives MI, Echeverría N, Ospina-Tascón G, Bakker J, Hernández G. Impairment of exogenous lactate clearance in experimental hyperdynamic septic shock is not related to total liver hypoperfusion. *Crit Care.* 2015 Apr 22;19:188

Ospina-Tascón GA, Umaña M, Bermúdez W, Bautista-Rincón DF, Valencia J, Madriñan H, Hernandez G, Bruhn A, Arango-Dávila C, De Backer D. Can venous-to-arterial carbon dioxide differences reflect microcirculatory alterations in patients with septic shock? *Intensive Care Med* 2015 Nov 17. [Epub ahead of print]

5. Libros y patentes:

SEPSIS Y FALLA MULTIORGÁNICA Tercera Edición; Libros Técnicos Mediterráneo