université angers

Reversible Microvascular Hyporeactivity to Acetylcholine During Diabetic Ketoacidosis

Submitted by Beatrice Guillaumat on Tue, 01/22/2019 - 16:13

Titre	Reversible Microvascular Hyporeactivity to Acetylcholine During Diabetic Ketoacidosis
Type de publication	Article de revue
Auteur	Joffre, Jérémie [1], Bourcier, Simon [2], Hariri, Geoffroy [3], Miailhe, Arnaud-Felix [4], Bigé, Naïke [5], Dumas, Guillaume [6], Dubée, Vincent [7], Boëlle, Pierre-Yves [8], Abdallah, Idriss [9], Baudel, Jean-Luc [10], Guidet, Bertrand [11], Maury, Eric [12], Ait-Oufella, Hafid [13]
Editeur	Lippincott, Williams & Wilkins
Type	Article scientifique dans une revue à comité de lecture
Année	2018
Langue	Anglais
Date	1er Août 2018
Numéro	8
Pagination	e772-e778
Volume	46
Titre de la revue	Critical care medicine
ISSN	1530-0293
Résumé en anglais	OBJECTIVES: Metabolic acidosis is commonly observed in critically ill patients. Experimental studies suggested that acidosis by itself could impair vascular function, but this has been poorly investigated in human. DESIGN: Prospective observational study. SETTING: Medical ICU in a tertiary teaching hospital. PATIENTS: To assess the relationship between metabolic acidosis severity and microvascular reactivity, we included adult diabetic patients admitted in ICU for ketoacidosis. Microvascular response to acetylcholine iontophoresis was measured at admission (baseline) and after correction of metabolic acidosis (24 hr). INTERVENTIONS: None. MEASUREMENTS AND MAIN RESULTS: Thirty-nine patients with diabetic ketoacidosis were included (68% male), with a median age of 43 (31-57) years. At admission, microvascular reactivity negatively correlated with acidosis severity (R = -0.53; p < 0.001). Microvascular response was strongly depressed at pH less than 7.20 (area under the curve, 1,779 [740-3,079] vs 12,944 [4,874-21,596] at pH > 7.20; p < 0.0001). In addition, acidosis severity was significantly correlated with capillary refill time (R = 0.50; p = 0.02). At H24, after rehydration and insulin infusion, clinical and biological disorders were fully corrected. After acidosis correction, microvascular reactivity increased more in patients with severe baseline acidosis (pH < 7.20) than in those with mild baseline acidosis (area under the curve, +453% [213%-1,470%] vs +121% [79%-312%]; p < 0.01). CONCLUSIONS: We identified an alteration of microvascular reactivity during metabolic acidosis in critically ill patients with diabetic ketoacidosis. Microvascular hyporeactivity recovered after acidosis correction.

Liens

[1] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=30088
[2] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=31423
[3] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=33256
[4] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=33257
[5] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=30085
[6] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=31426
[7] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=30087
[8] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=22680
[9] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=30089
[10] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=16337
[11] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=16336
[12] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=30090
[13] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=30092
[14] http://okina.univ-angers.fr/publications/ua18704
[15] http://dx.doi.org/10.1097/CCM.0000000000003224
[16] https://insights.ovid.com/crossref?an=00003246-201808000-00034
[17] http://www.ncbi.nlm.nih.gov/pubmed/29782357?dopt=Abstract

Publié sur *Okina* (http://okina.univ-angers.fr)