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Reply to: “ β -blocker treatment of vascular disease in cocaine addiction”

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To the Editor,

In his Letter to the Editor, John R. Richards suggested that our statements regarding the use of β -blockers [1] are “*incorrect and should be discussed further and amended to reflect modern-day evidence*”. Richards and colleagues (2016) performed an extensive systematic review on the pharmacologic treatment of cocaine cardiovascular toxicity and determined (β -blockers were safe and effective, especially for concomitant cocaine-induced hypertension and tachycardia [2].

We acknowledge that the literature on the subject is controversial and level of evidence is inconclusive (see Prevention and Treatment in our manuscript [1]). However, our statement about avoidance of β -blockers (which can lead to severe hypertension and coronary vasoconstriction resulting from the interaction of β -blockers with cocaine) appears to be in line with the current guideline recommendation [3–5] where the current consensus is to avoid their use when treating cardiovascular complications in patients with acute cocaine intoxication until more data becomes available. The safety and efficacy of (β -blockers in patients with chronic heart failure or cardiomyopathy related to cocaine are unknown [5]. For patients with standard therapy for left ventricular dysfunction, who demonstrated

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Conflict of interest

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abstinence from cocaine for >6 months, including β -blockers, is reasonable (Level of Evidence C) [5]. In patients at risk for relapse to cocaine abuse, nonselective (β -blocker treatment with α_1 -, β_1 -, or β_2 -receptor antagonism is reasonable because of the potential protection against the unopposed α -agonism effects of cocaine with β_1 -receptor antagonist treatment alone (Level of Evidence C) [5].

Furthermore, Richards and colleagues found “*benzodiazepines not to be reliable for reduction of tachycardia and hypertension, and phentolamine to be reliable only for reduction of hypertension, but not tachycardia. Unlike benzodiazepines, (β -blockers directly counter the hyperadrenergic effects of cocaine, without the risk of oversedation and respiratory depression*” [2]. We suggest that “*enhanced supportive care and use of benzodiazepines and phentolamine for sedation ... notably, there is no specific pharmacological antidote for cocaine overdose, yet the administration of benzodiazepines can help alleviate some of the stress that is placed on the heart and may greatly reduce the risk of heart attack, stroke or serious heart damage arising from the overdose*” [1]. Based on the available evidence, optimal therapy for patients experiencing cardiovascular complications in the setting of acute cocaine intoxication begins with reduction in central nervous system catecholamine release, rather than peripheral antagonism of released catecholamines, and benzodiazepines have a role in this regard [4].

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