

Terlipressin Increases Blood Pressure and Facilitates Weaning from Cardiopulmonary Bypass in Heart Transplant Recipients with Refractory Hypotension: Case Series

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Refrakter Hipotansiyonu Olan Kalp Transplant Alicılarında Terlipresin Kardiyopulmoner Baypastan Ayrılmayı Kolaylaştırır ve Kan Basıncını Yükseltir: Olgu Serisi

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Refractory hypotension may occur during the weaning period from cardiopulmonary bypass (CPB) in orthotopic heart transplantation (OHT) and is usually multifactorial. Vasopressin plays a major role in circulatory homeostasis [1,2] and is commonly used for treating hypotension both during anesthesia and in intensive care unit. Unfortunately, vasopressin is currently not available in our country. So, we use terlipressin instead of vasopressin for treating refractory hypotension after CPB. Terlipressin is a synthetic analog of vasopressin and a prodrug. However, there is a lack of evidence regarding the use of terlipressin in this setting. Hajjar et al. [3] demonstrated that treating postcardiac surgery patients with vasoplegic shock using vasopressin may be better than norepinephrine. We retrospectively evaluated 18 patients who underwent OHT at our center, between June 2013 and December 2015. Our findings revealed that similar to Hajjar and coworkers' [3] findings terlipressin was effective in restoring hemodynamic stability in refractory hypotension during OHT.

Five out of 18 OHT patients in our series had refractory hypotension after CPB. All patients (n=18) were on dobutamin, norepinephrine, epinephrine, and milrinone. However, in five patients hypotension was refractory to these vasopressors and a terlipressin bolus (0.01-0.02 mg/kg⁻¹) followed by its infusion (2-4 mg/24 hours) was used. After initiation of terlipressin treatment hemodynamic stability was achieved in all patients and the operation was terminated uneventfully. Terlipressin infusion was gradually weaned over a period of 24 to 48 hours in the ICU. All the patients had the risk factors like blood transfusion, longer duration of CPB, previous cardiac surgery, and

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hypotension immediately upon initiation of CPB. The operations that observed were all organ transplantations which are also risk factors for vasoplegic syndrome. We also reported that significantly higher lactate levels and lower urine outputs in patients who received terlipressin infusion. But, no ischemic complications related to terlipressin were observed in these 5 patients. One patient (20%) died because of multiple organ failure 63 days after the operation.

Terlipressin obtains better hemodynamic profile and cardiac index and it also increases systemic vascular resistance. But we are not sure about the effective dosage. We have observed that it causes significant renal vasoconstriction and decreases the platelet counts. We believe that when vasopressin is not available terlipressin may be considered as an alternative for improving hemodynamics in patients with refractory hypotension during OHT.

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