

WEBTABLE I: STUDIES EVALUATING THE ROLE OF VASOPRESSIN/TERLIPRESSIN IN PEDIATRIC PATIENTS (EXCLUDING SINGLE CASE REPORTS)

Authors	Year	Study design (Pro./Retrospective)	No. of Cases	Study Condition/ Population	Drug	Dose	Main results	Mortality	Side effects
<i>Septic shock</i>									
Rodriguez-Nunez [66]	2010	Case series, Retrospective	15	16 episode of refractory septic shock in 15 patients, Newborn to 15 yr	TP	20 µg/kg bolus then 4-20 µg/kg/h infusion	A, B,	8/15	Signs of reversible ischemia in 4 patients
Bidegain M [67]	2010	Case series, Retrospective	20	33 infusions for > 1 h in 20 ELBW infants, Refractory septic shock	AVP	0.00017 to 0.0007 U/kg/min	A, B	13/20	
Ikegami H [68]	2010	Case series, Retrospective	22	ELBW infants with refractory septic shock	AVP	-	A, C	4/22	Hyponatremia, “! platelet count, “! liver enzymes
Choong K [30]	2009	Double blind, multicenter RCT, Prospective	33	1 mo to 17 yr, Refractory vasodilatory shock	AVP	0.0005–0.002 U/kg/min	A, D, E No beneficial effects over	10/33 (AVP), 5/32 (control) placebo	Mesenteric ischemia
Yildizdas D [31]	2008	Non-blind RCT, Prospective	30	Refractory septic shock	TP	20 µg/kg Q 6 h (max. 96 h)	A, “!Pao2/Fio2, No difference in mortality	20/30 (TP), 20/28 (control)	Digital ischemia
Papoff P [69]	2007	Case series. Not stated	2	Catecholamine resistant septic shock	TP	10 µg/kg bolus f/b infusion of 10 µg/kg/h	A, C	2/2	
Rodriguez-Nunez [70]	2006	Prospective Case series	16	Catecholamine refractory septic shock	TP	20 µg/kg Q 4 h	A, B	9/16	Neurological deficits, amputations
Meyer S [71]	2006	Case series, Retrospective	3	3 ELBW infants 1 – septic shock 2 – cardiogenic shock	AVP	0.0002 - 0.002 U/kg/min	A, B in septic,	2/3 with cardiogenic shock	
Meyer S [72]	2006	Case series, Prospective	6	Septic Vs non-septic shock in ELBW infants (3 each) with acute renal injury	AVP	0.0006 – 0.006 U/kg/min	A, C	4/6 (1 in septic Vs 3 in non-septic)	
Vasudevan A [73]	2005	Case series, Not stated	3	Septic shock	AVP	0.0003 - 0.002 U/kg/min	A, B, C	1/3	

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Matok I [74]	2005	Case series, Retrospective	14	Catecholamine refractory septic shock	TP	7 µg/kg Q 12 h -20 µg Q 6 h	A, C, E	8/14	
Rodriguez- Nunez [75]	2004 Not stated	Case series, Not stated	4	Catecholamine resistant septic shock	TP	20 µg/kg Q 4 h	A, B	2/4	
Tobias [76]	2002	Case series, Not stated	2	Vasodilatory shock	AVP	0.0025 – 0.006 U/kg/min	A, B	1/2	
<i>Post-CPB Shock (excluding case reports)</i>									
Agrawal A [77]	2011	Evaluation study, Prospective	12	Refractory vasodilatory shock receiving AVP for > 1 h	AVP	0.0005-0.003 U/kg/min	A, B, E	1/12	None
Burton GL [78]	2011	Case series, Retrospective	28	Neonates receiving AVP following norwood procedure	AVP	0.0005±0.0003 U/kg/min	A, C, E	4/28	
Alten JA [79]	2011	Clinical evaluation, Retrospective	19	Patients with norwood or ASO compared with 18 patients not receiving AVP	AVP	0.0003 U/kg/min	A, B, Non- significant “! in fluid resuscitation	7/19	
Mastropietro CW [80]	2010	Clinical trial, Prospective	10	Children undergoing cardiac surgery	AVP	0.0003 – 0.0016 U/kg/min	A	0/10	
Matok I [81]	2009	Case series, Retrospective	29	Children with low cardiac output after open heart surgery	TP	7 – 20 µg/kg hourly boluses	A, B, C, “! in oxygenation index,	11/29	Reversible cyanosis of limbs
Mastropietro CW [82]	2008	Case series, Retrospective	3	Neonates with hypoxemia following stage I palliation of single ventricle	AVP	0.0005 U/kg/min	A, B, E	0/3	
Lechner E [83]	2007	Case series, Retrospective	17	Neonates , low cardiac output	AVP	0.0001-0.0003 U/kg/min	A, B, C, E	4/17	
Rosenzweig EB [84]	1999	Case series, Retrospective	11	3 d to 15 yr, Post-cardiac surgery, 2 with compromised myocardial function failure	AVP	0.0003 - 0.002 U/kg/min	A,B,	2/11 (with myocardial	
<i>Vasodilatory Shock due to other conditions/mixed shock (excluding case reports)</i>									
Filippi L [56]	2010	Case series, Retrospective	4	1 each of SIRS, CDH, HIE, septic shock	TP		A, C, E	2/4	Hyponatremia in 2 patients
Jerath N [85]	2008	Evaluation study,	117	85 cardiac, 32 non-cardiac,	AVP	0.0001 U/kg/min	A, B, D	19/85	“!urea,

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		Retrospective		advanced shock, infusion > 60 min		in cardiac, 0.0002 in non-cardiac		(cardiac), 13/32 (non- cardiac)	creatinine, & conjugated bilirubin, “↑ platelet counts
Masutani S [86]	2005	Case series, Retrospective	12	1 day to 21 years, 15 situations, 5 each of neurological lesions, drug intoxication, & septic shock	AVP	0.0002 – 0.004 U/kg/min	A, C, 3 cases exhibited no response,	5/12	
Efrati O [87]	2004	Case series, Retrospective	8	Septic, hemorrhagic, trauma & cardiogenic	AVP	0.0003 - 0.002 U/kg/min	A	7/8	
Liedel JL [29]	2002	Case series, Not stated	5	2 newborns, 3 cancer patients (7 -13 yr old)	AVP	0.006 – 0.008 U/kg/min	A, B, C,	3 D 5	
Katz K [53]	2000	Evaluation study, Retrospective	34	Brain dead patients on support for organ donation	AVP	0.0007±0.0011 U/kg/min	A,B	–	
<i>Pediatric Cardiac arrest/ Cardiopulmonary Resuscitation (excluding case reports)</i>									
Carroll TG [50]	2011	Matched controlled clinical trial, Prospective	10	In-PICU refractory cardiac arrest in children < 18 yr compared 20 patients who didn't receive AVP	AVP	0.8 U/kg rescue as second vasopressor	‘1 24 hr survival, No significant difference in ROSC, survival or neurological outcome at discharge	2/10	
Yildizdas D [47]	2011	Case series, Retrospective	9	11 mo to 14 yr, 12 episodes of refractory cardiac arrest	TP	20 µg/kg Improved ROSC in 6/12 episodes, 5 discharged without sequelae	4/9		
Gil-Anton J [48]	2010	Case series, Prospective	5	5 mo to 12 yr, In- hospital CPR	TP	10 – 20 µg/kg (upto 2 doses)	Restoration of circulation in 4	3/5	
Duncan MJ [51]	2009	Case series, Retrospective	65	Prolonged pulseless in-hospital cardiac arrest patients	AVP	Not documented	No difference in 24 hr survival or discharge	57/65 (AVP), 337/1229	

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Matok I [88]	2007	Case series, Retrospective	7	2 mo – 5 yr, Prolonged pediatric CPR	TP	15–20 µg/kg (one dose)	A	(control) 3/7	
Mann K [49]	2002	Case series, Retrospective	4	6 prolonged cardiac arrest events in 4 cases	AVP		A, return of circulation in 4/6 events	3/4	
<i>Anaphylactic Shock</i>									
Chiara LD [37]	2008	Case report, Retrospective	1	Anaphylaxis to heparin during CHD repair	AVP	0.0003 U/kg/min	A, B	0/1	
Meng L [38]	2008	Case report, Not stated	1	Anaphylactic shock secondary to rocuronium	AVP	2 U bolus followed by 2 U/h infusion	A	0/1	
<i>Hemorrhagic Shock</i>									
Erkek N [33]	2011	Case report, Not stated	1	10 mo old, shock following bleeding from duodenal ulcer	TP	20 µg/kg 6 hr 2 doses, then 10 & 5 µg/kg for 2 d	A, Cessation of bleeding after second dose	0/1	

Note: A – Increase in Mean Arterial Pressure/Blood Pressure, B – Decrease in other vasopressor doses, C – Increase in urine output, D – Decrease in urine output, E – Improvement in serum lactate levels, M – Mortality, ROSC – Return of spontaneous circulation, AVP – Arginine vasopressin, TP – Terlipressin, ELBW – Extremely Low Birth Weight, CPR – Cardiopulmonary resuscitation, CHD – Congenital heart disease, HIE – hypoxic ischemic encephalopathy, CDH – congenital diaphragmatic hernia, SIRS – systemic inflammatory response syndrome, ASO – arterial switch operation, RCT – randomized controlled trial, PaO₂ – partial pressure of oxygen, FiO₂ – fraction of inspired oxygen, SpO₂ – oxygen saturation