

APPENDIX S4: Main characteristics of included studies (n=39)

Author and year	Methods		Participants				Intervention			Outcomes	
	Study design	Duration	n*	Age /y†	Setting	Country	Intervention	Control(s)	Primary	Secondary	
ANTIHYPERTENSIVE MEDICATIONS (18 studies)											
Calcium channel blockers											
Barton 1990 ³²	RCT	Enrolled immediately after birth F/U 48h	31	24.0 26.3	Tertiary referral hospital	USA	Nifedipine 10mg PO 4-hourly for 48 hours	Placebo	MAP	SBP, DBP Maternal heart rate AHT requirement Urine output Laboratory values (urine protein, creatinine clearance, HCT, plt, ALT, BUN, creatinine, serum electrolytes, UA, urine specific gravity)	
Vermillion 1999 ²¹	RCT	Enrolled within 24h of birth F/U 3 – 24h	21	27.2±7.3 27.0±6.4	Tertiary referral hospital	USA	Nifedipine 10mg stat PO then 20mg every 20min until BP <160/110mmHg or max 5 doses + IV placebo	Labetalol 20mg, then 40mg, then 80mg IV every 20min until BP <160/110mmHg or max 5 doses (300mg) + PO placebo	SBP + DBP	SBP (failure to achieve target <160mmHg) DBP (failure to achieve target <110mmHg) Maternal side effects AHT requirement Urine output	
Sayin 2005 ³⁴	RCT	Enrolled 24h after birth F/U 72h after BP controlled	83	17-41	Tertiary referral hospital	Turkey‡	Nifedipine 10mg PO QDS until BP <150/100mmHg for 48h	Methyldopa 250mg PO TDS	SBP + DBP	Maternal mortality AHT requirement Hypertensive retinopathy	
Vasodilators											
Palot 1979 ³⁶	Retrospective cohort study	Not specified	54	24.5 (17-37)	Not specified	France‡	Hydralazine 5mg IV stat then 1% IV infusion, furosemide 20mg IV stat and 30% hypertonic glucose	(1) Clonidine IV and furosemide 20mg IV stat Or (2) Non-systematic treatment	Maternal morbidity (development of pre-eclampsia with severe features)	BP (time to resolution of hypertension)	

Abbreviations: AHT = antihypertensive; ALT = alanine aminotransferase; BD = twice daily; BP = blood pressure; BUN = blood urea nitrogen; DBP = diastolic blood pressure; F/U = follow-up; IM = intramuscular; IV = intravenous; MAP = mean arterial pressure; plt = platelets; PN = postnatal; OD = once daily; PO = oral; QDS = four times daily; RCT = randomised controlled trial; SBP = systolic blood pressure; S/L = sublingual; TDS = three times daily; UA = uric acid

* n = postnatal population (antenatal excluded)

† Where separate data available for study groups, intervention group listed first

‡ Non-English language manuscript

Author and year	Methods		Participants				Intervention			Outcomes	
	Study design	Duration	n*	Age /y†	Setting	Country	Intervention	Control(s)	Primary	Secondary	
Griffis 1989 ³⁸ ₃₉	RCT	F/U 24h	26	Not specified	Tertiary referral hospital	USA	Hydralazine 20mg IM QDS for 24h	Methyldopa 250mg IV QDS x 24h	MAP	Maternal side effects AHT requirement Urine output (time to diuresis)	
Walss Rodriguez 1991 ⁴⁰	RCT	Not specified	38	16-40	Not specified	Mexico†	Hydralazine 40mg PO QDS, duration not specified; if DBP >110mmHg PRN nifedipine 10mg SL every 30min, to max 3 doses	Nifedipine 10mg SL every 30min if DBP ≥110mmHg	SBP	DBP AHT requirement	
Begum 2002 ¹⁷	Quasi-randomised trial	Not specified	15	24.09±4.93 22.72±5.08	Tertiary referral hospital	Bangladesh	Hydralazine 5mg then 2mg IV bolus every 15min until DBP 90-95mmHg	Hydralazine 20mg/200ml normal saline IV infusion; 10 drops per min, increased by 5 drops at 15min intervals; until DBP 90-95mmHg	DBP	Maternal side effects AHT requirement Maternal heart rate	
Vigil-De Gracia 2007 ³⁵	RCT	Enrolled day 2-3 after birth F/U not specified	82	29.9±5.9 31.3±5.5	Tertiary referral hospital	Panama	Hydralazine 5mg IV every 20min until BP <160/110mmHg or max 5 doses	Labetalol 20mg, then 40mg, then 80mg IV every 20min until BP <160/110mmHg or max 5 doses (300mg)	SBP + DBP	Maternal mortality Maternal morbidity (development of pre-eclampsia with severe features) Maternal side effects AHT requirement Maternal heart rate	
Hennessy 2007 ²³	RCT	F/U 3h	37	21-43 (mean 33)	Tertiary referral hospital	Australia	Diazoxide 15mg IV every min, maximum dose 300mg	Hydralazine 5mg IV every 2min, maximum 15mg	SBP + DBP	SBP (10mmHg above target after 1 hour) DBP (10mmHg above target after 1 hour) Maternal side effects (including hypotension) Time taken to administer drug	
Beta blockers											
Garden 1982 ²⁴	RCT	Enrolled immediately after birth F/U 45-64h	6	25-44 20-28	Tertiary referral hospital	South Africa	Labetalol 200mg/200ml 5% dextrose, 20mg/h IV infusion, doubled every 30min until DBP <100mmHg or maximum dose 160mg/h	Dihydralazine 100mg/200ml 5% dextrose, 10mg/h IV infusion, doubled every 30min until DBP <100mmHg or maximum dose 80mg/h	DBP	Maternal side effects	
Fidler 1982 ⁴²	RCT	Enrolled 4 days after birth F/U 9 days	80	29.7±1.0 27.8±0.9	Tertiary referral hospital	UK	Timolol 5mg PO TDS for 9 days	Methyldopa 250mg PO TDS for 9 days	DBP	SBP DBP (time to achieve control, proportion achieving control) Maternal side effects	

Author and year	Methods		Participants				Intervention			Outcomes	
	Study design	Duration	n*	Age /y†	Setting	Country	Intervention	Control(s)	Primary	Secondary	
Mabie 1987 ²²	RCT	Enrolled 1-96 hours after birth F/U 3h	41	23.7±6.9 22.9±7.0	Tertiary referral hospital	USA	Labetalol 20mg IV every 10min then escalating until DBP <100mmHg or maximum cumulative dose reached (300mg)	Hydralazine 5mg IV every 10min until DBP <100mmHg	MAP	MAP (time to maximal decrease) DBP (achieving target <100mmHg) Maternal side effects AHT requirement Maternal heart rate	
Shumard 2016 ⁴¹	Retrospective cohort study	F/U not specified (but >24h)	128	Not specified	Not specified	USA	Labetalol PO (variable dose and frequency)	Nifedipine PO (variable dose and frequency)	Length of hospital stay after birth	SBP, DBP AHT requirement	
Sharma 2017 ^{27, 28}	RCT	F/U not specified (but >24h)	50	Not specified	Tertiary referral hospital	USA	Labetalol 200mg PO BD	Nifedipine XL 30mg PO OD	SBP + DBP	Maternal side-effects Length of PN hospital stay AHT requirement	
Other											
Gaisin 2013 ²⁵	RCT	6 months	30	23-29	Not specified (hospital)	Russia	Indapamide 1.5mg PO OD, duration unclear	Adjusted dose methyldopa	SBP + DBP	Safety data Laboratory values (lipid and glucose metabolism) Adherence to treatment Weight reduction Decrease in albuminuria Decrease in LV mass index Endothelial function Milk production	
Gaisin 2014 ³⁷	RCT	1 year	30	24-28	Not specified (hospital)	Russia	Indapamide 1.5mg PO OD with ursodeoxycholic acid 250mg PO TDS, duration unclear	Adjusted dose methyldopa	SBP + DBP	Maternal side effects Laboratory values (atherogenic lipid profile, glucose metabolism, renal function) Offspring adverse events Weight reduction Decrease in microalbuminuria Decrease in LV mass index Endothelial function	
Krebs 1956 ^{43,44}	Retrospective cohort study	F/U not specified (but >24h)	140	Not specified	Not specified	Switzerland†	Reserpine 0.25mg PO or IM TDS or QDS for 7 days	Phenobarbital	SBP + DBP	SBP + DBP (non-responders) Maternal side effects Resolution of albuminuria Resolution of oedema	
Katz 2015 ²⁹⁻³¹	RCT	F/U not specified	90	Not specified	Tertiary referral hospital	Brazil	Clonidine 0.1mg PO repeated every 20min to maximum 6 doses	Captopril 25mg PO repeated every 20min to maximum 6 doses	SBP + DBP	SBP (% reduction) SBP + DBP (daily mean) Maternal side effects AHT requirement	
LOOP DIURETICS (3 studies)											
Matthews 1997 ⁴⁶	RCT	Enrolled 12-24h after birth F/U 6 weeks	19	Not specified	Tertiary referral hospital	UK	Furosemide 40mg PO OD for 7 days	Placebo	MAP	Length of PN hospital stay AHT requirement Urine output Laboratory values (hypokalemia)	

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	Study design	Duration	n*	Age /y†	Setting	Country	Intervention	Control(s)	Primary	Secondary	
Ascarelli 2005 ¹⁶	RCT	Enrolled 2-24h after birth F/U 6 weeks	264	22.8±6.1 22.9±6.0	Tertiary referral hospital	USA	Furosemide 20mg PO OD + potassium 20mEq PO OD for 5 days	No intervention	SBP	Maternal morbidity (postnatal complication requiring intervention) DBP Length of PN hospital stay AHT requirement Maternal weight Maternal HR Duration of magnesium sulphate	
Amorim 2015 ⁴⁵	RCT	Enrolled immediately after birth F/U 5 days	120	Not specified	Tertiary referral hospital	Brazil	Furosemide 40mg PO OD, duration not specified	Placebo	SBP + DBP	MAP SBP (daily episodes ≥180mmHg) DBP (daily episodes ≥110mmHg) Length of PN hospital stay AHT requirement Urine output Maternal heart rate	
Veena 2017 ¹⁹	RCT	Enrolled <24h after birth	100	24.34±4.31 24.02±4.27	Tertiary referral hospital	India	Furosemide 20mg PO OD + nifedipine 10mg PO TDS for 3 days	Nifedipine 10mg PO TDS for 3 days	SBP + DBP	MAP Maternal morbidity (postnatal complication requiring intervention) Length of hospital stay after birth Antihypertensive medication requirement Urine output	
OTHER DRUGS (7 studies)											
Selective 5-HT antagonists											
Weiner 1982 ⁴⁸	RCT (crossover)	F/U not specified	5	Not specified	Tertiary referral	USA	R41468 IV (dose not specified) bolus then infusion for 90min	Placebo	MAP	MAP (rate at which hypertension returned post-infusion) Urine output (infusion related diuresis)	
Weiner 1984 ⁴⁹	RCT (crossover)	Enrolled immediately after birth F/U 3.5h	20	28±6.4	Tertiary referral	USA	Ketanserin 10mg IV bolus then 4mg/hr IV infusion. Repeat bolus after 5min if no response.	Placebo	SBP + DBP	Maternal side effects DBP (target <95mmHg) MAP AHT requirement Response rate	
Montenegro 1985 ⁵⁰	RCT (crossover)	Enrolled immediately after birth F/U not specified	30	21.5 (13-31)	Tertiary referral hospital	USA	Ketanserin 10mg IV bolus, repeated if no response. If no response to second bolus IV infusion 4mg/hr (increments of 2mg/hr every 10min to max 12mg/hr).	Placebo	MAP	Maternal side effects	

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Alternative therapies											
Hladunewich 2006 ⁵¹	RCT	Enrolled immediately after birth F/U 10 days	45	29±6 28±7	Tertiary referral hospital	USA	L-arginine 3.5g PO QDS or 10g IV TDS for 3-9 days	Placebo	MAP	Maternal side effects SBP, DBP AHT requirement Laboratory values (glomerular filtration rate (GFR) (inulin clearance), Albumin/creatinine (A/C) ratio, vasoactive hormones (NO and cGMP), liver function tests (LFTs), plt) Renal plasma flow (para-amino hippurate clearance), renal blood flow = renal plasma flow / (1 - HCT), renovascular resistance	
Liu 2009 ⁵²	Quasi-randomised trial	Enrolled day 2 after birth F/U 3 weeks	72	26.6±3.7 25.7±3.9	District general hospital	China†	Shengkangbao 10g PO or IV BD for 3 weeks	No intervention	Percentage of cases with positive albuminuria	SBP, DBP Laboratory values (24h urinary albumin, plasma total protein, plasma albumin, urinary albumin negative inversion rate, renal function)	
Steroids											
Barrilleaux 2005 ^{53,54}	RCT	Enrolled immediately after birth F/U 4.5 days	157 (175)	24.5±6.8 23.9±6.4	Tertiary referral hospital	USA	Dexamethasone 10mg x 2, then 5mg x 2 IV BD for 48 hours	Placebo	Antihypertensive medication requirement	MAP Critical care admission Length of PN hospital stay Urine output Laboratory values (plt, lactate dehydrogenase (LDH), aspartate aminotransferase (AST)) Stay in recovery >24h	
Atrial natriuretic peptide											
Shigemitsu 2015 ⁴⁷	Retrospective cohort study	F/U not specified	16	Not specified	Tertiary referral hospital	Japan	Carperitide (no further details)	Standard care	MAP	Maternal mortality Maternal side effects Need for dialysis Time to diuresis	
UTERINE CURETTAGE (8 studies)											
Salvatore 1967 ⁵⁸	Prospective cohort study	Enrolled immediately after birth F/U 10 days	48	16-45	Tertiary referral hospital	Brazil††	Uterine curettage	No intervention	SBP + DBP	Maternal morbidity (development of pre-eclampsia with severe features – seizures)	
Magann 1993 ⁵⁹	RCT	Enrolled immediately after birth F/U 24h (telephone at 7 weeks)	32	22.9±5.6 23.4±6.6	Tertiary referral hospital	USA	Uterine curettage	No intervention	MAP	Maternal side effects Length of PN hospital stay AHT requirement Urine output Laboratory values (HCT, plt, AST, LDH)	
Magann 1994 ⁶⁰	RCT	Enrolled immediately after birth F/U 48h (telephone at 7 weeks)	45	22.3±6.4 22.8±6.6 22.8±6.1	Tertiary referral hospital	USA	Uterine curettage	(1) Nifedipine PO OR (2) Usual care	MAP	Maternal side effects Urine output Laboratory values (HCT, plt, AST, LDH)	

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Gocmen 1996 ⁵⁷	Prospective cohort study	Enrolled immediately after birth F/U 24h	50	Not specified	Tertiary referral hospital	Turkey†	Uterine curettage	No intervention	MAP	Urine output Laboratory values (plt)	
Gomez 2005 ⁶¹	RCT	Enrolled immediately after birth F/U not specified	86	Not specified	Tertiary referral hospital	Peru	Uterine curettage	No intervention	MAP	Maternal side effects Length of PN hospital stay AHT requirement Urine output	
Alkan 2006 ⁶²	RCT	Enrolled immediately after birth F/U 24h	56	22.8±3.4 24.6±7.5	Tertiary referral hospital	Turkey	Uterine curettage	No intervention	MAP	Maternal side effects Urine output Laboratory values (plt, LDH, AST, ALT)	
Ragab 2013 ¹⁵	RCT	Enrolled immediately after birth F/U 96h	420	Not specified	Tertiary referral hospital	Egypt	Uterine curettage	No intervention	MAP	Maternal mortality Maternal morbidity (development of pre-eclampsia with severe features) MAP (time to MAP ≤105mmHg) Urine output Laboratory values (creatinine, plt, UA)	
Mallapur 2015 ¹⁸	RCT	Enrolled immediately after birth F/U 7 days	100	Not specified	Tertiary referral hospital	India	Uterine curettage	No intervention	MAP	Length of PN hospital stay Urine output Laboratory values (plt, renal and liver function)	
ORGANISATION OF CARE (2 studies)											
York 1997 ²⁶	RCT	Enrolled immediately after birth F/U 8 weeks	96 [§]	28±7 27±7	Tertiary referral	USA	Contact with nurse specialist; early discharge if criteria met; 2 scheduled home visits and 10 telephone calls (twice weekly for 2 weeks, then weekly for 6 weeks) during F/U	Standard care	Postnatal readmission to secondary care	Functional status Patient satisfaction Neonatal rehospitalisation / acute neonatal care Cost	
Bibbo 2014 ³³	Retrospective cohort study	F/U not specified (but >7 days)	138	Not specified	Tertiary referral hospital	USA	Specialised postpartum clinic	Usual care	Postnatal readmission to secondary care and triage visits	Primary care provider F/U	

§ Mixture of hypertension and diabetes – unable to separate