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A NEW CLASSIFICATON FOR BLOOD PRESSURE IS NECESSARY FOR MANAGEMENT OF SEVERE PRE-ECLAMPSIA

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Objective; About severe pre-eclamptic women we studied the relationship between the severity of maternal blood pressure and clinical outcomes. Methods; 47 patients with severe pre-eclampsia, excepting soperimposed type, (such as chronic nephritis, chronic hypertension) were mainly treated conservatively. We retrospectively classified the patients into groups as follows, sA(sBP:160～179 mmHg), sB(sBP:180～209), sC(210≦sBP) by peak systolic blood pressure, and into groups, dA(dBP:100～109), dB(dBP:110～119), dC(120≦dBP) by peak diastolic blood pressure, according to the classification of the JNC-V, and compared with each group about clinical background and outcomes. Results; The incidence of serious maternal complica-tions, such as HELLP syndrome, abruptio placenta, eclampsia and retinopathy) were 10.0%, 31.6%, 66.7% in group dA, dB, dC respectively. Conclusion; The incidence of serious maternal grew worse according to the severity of diastolic blood pressure than that of systolic blood pressure. These results suggest that subdivision of severe preeclampsia by blood pressure is necessary and they help us to assess risk, determine prognosis, and guide management.

[目 的]重症妊娠中毒症は母児のリスクが大きく，管理困難で早期の妊娠終結を余儀無くされる場合が多い.また,同じ重症妊娠中毒症でもタイプ,発症時期により母児に与える影響が異なるという報告がなされてきた. 妊娠中毒症の症候のなかで血圧について細分類を行い母児に与える影響の差について調べ,より適切な管理のあり方について検討した.

[方 法]安静およびMgSO4 sulfateの持続点滴を基準治療として妊娠継続を試みた47例の純粋型(慢性高血圧や慢性腎炎といった妊娠前から基礎疾患を有する症例は除いた)重症妊娠中毒症(重症の診断は血圧160/110 mmHg以上に加え蛋白尿(2+)以上が少なくとも2回認められた症例とした)について後方視的に米国合同委員会の血圧分類診断基準に従いピーク時の血圧で次のように細分類を行った(Table.1).つまり収縮期期血圧が160～179mmHgをsA群(16例),180～209mmHgをsB群(26例), 210mm Hg以上をsC群(5例),そして拡張期血圧が100～109mmHgをdA群(10例), 110～119 mmHgをdB群(19例),120mm Hg以上をdC群 としてそれぞれの臨床的背景,分娩周辺の事象,周産期予後等について比較検討を行った. 統計学的検討にはMann-Whitney Test, Fisher's test を用い５％の危険率で統計学的有意と判定した.

[結 果]母体背景(Table.2):妊娠初期血圧と非妊時のBody Mass IndexがdC群で高い傾向を認めた.
臨床的背景(Table.3):dC群で早期発症の傾向があり,sA 群でsB 群に比してやや妊娠継続期間が長い傾向を認めた.
周産期予後(Table.4):今回の検討では胎児の発育度に差はなく,5分後のApgar score がややdC群で低い傾向を認めた.また,重篤な母体合併症の発症率はdA, dB, dC群でそれぞれ10.0%, 31.6%, 66.7%で,新生児合併症の発症率はそれぞれ10.0%, 15.8%, 50.0% であった.

Table I. Classification of blood pressure

grade	classification of the JNC-V		Systolic BP	grade	classification of the JNC-V		Diastolic BP
sC	HTN	4th stage (very severe HTN)	210≦sBP	dC	HTN	4th stage (very severe HTN)	120≦dBP
sB		3rd stage (severe HTN)	180≦sBP≦209	dB		3rd stage (severe HTN)	110≦dBP≦119
sA		2nd stage (moderate HTN)	160≦sBP≦179	dA		2nd stage (moderate HTN)	100≦dBP≦109
		1st stage(mild HTN)	140≦sBP≦159			1st stage(mild HTN)	90≦dBP≦99
	high normal		130≦sBP≦149		high normal		85≦dBP≦89
	normal		sBP≦129		normal		dBP≦84

JNC-V: the fifth report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure HTN: Hypertension

Table II : Maternal characteristics. Values are given as mean [SD] or n(%).

	s-A n=16	s-B n=26	s-C n=5	d-A n=10	d-B n=19	d-C n=18
Maternal age(years)	30.8(4.9)	30.3(4.9)	33.5(5.1)	33.0(5.3)	30.0(4.8)	30.5(5.0)
Family histoly of hypertension(%)	7(44.6)	15(53.57)	4(57.1)	6(60.0)	10(50.0)	10(47.6)
Nulipara(%)	8(50.0)	17(60.7)	1(14.3)	3(30.0)	12(60.0)	13(61.9)
Maternal body mass index	21.8(4.3)	21.4(3.0)	22.7(4.5)	22.3(4.8)	20.2(2.0)*	22.7(3.7)*
Systolic blood pressure at first visit(mmHg)	114(14)	119(13)	120(2)	119(13)	113(13)*	122(12)*
Diastolic blood pressure at first visit(mmHg)	65(9)	70(8)	73(5)	66(7.4)	65(7.9)	75(7.1)

*: $p<0.05$ *:p=0.0701

Table III : Clinical background. Values are given as mean [SD] or n(%).

	s-A n=16	s-B n=26	s-C n=5	d-A n=10	d-B n=19	d-C n=18
Onset gestational age of pre-eclampsia (gestational weeks)	29.8(3.9)	30.1(4.5)	29.7(3.2)	30.7(3.1)	31.0(3.8)*	28.4(4.6)*
Deteriorating gestational age of pre-eclampsia (gestational weeks)	30.3(4.2)#	32.6(4.1)#	31.9(4.7)	31.8(3.5)	32.2(4.5)	31.2(4.4)
Early onset type[1] of pre-eclampsia(%)	11(68.8)	14(50.0)	4(57.1)	5(50.0)	9(45.0)	14(66.7)
Maximum urinary protein excretion (g/24 h)	5.4(4.0)	7.0(6.2)	8.6(3.4)	6.6(5.2)	6.4(6.1)	6.9(4.3)
Delayed period from admission to delivery (days)	27.0(56)##	7.0(10.7)##	9.3(9.9)	12.0(12.2)	25.7(64.9)	8.0(11.7)

[1]Early onset type : until 32 gestational weeks, symptoms were recognised cases

*: p= 0.0856 #: p=0.1045 ##: p= 0.1036

Table IV : Obstetric outcomes. Values are given as mean [SD] or n(%).

	s-A n=16	s-B n=26	s-C n=5	d-A n=10	d-B n=19	d-C n=18
Gestational age at delivery (gestational weeks)	33.4(3.7)	34.1(4.0)	34.7(2.1)	34.3(1.9)	34.1(4.1)	33.1(4.0)
Growth rate(-SD)	-3.1SD(1.7)	-2.3SD(1.3)	-2.7SD(1.2)	-2.6SD(1.4)	-2.4SD(1.5)	-2.8SD(1.4)
Apgar score at 5 min	7.5(2.2)	7.9(1.6)	8.2(2.4)	8.6(0.8)*	8.0(1.6)	7.1(2.4)*
Caesarean section(%)	13(81.3)	20(76.9)	4(80.0)	9(90.0)	13(68.4)	15(83.3)
Acute fetal distress(%)	8(50.0)	11(42.3)	2(40.0)	5(50.0)	7(36.8)	10(55.5)
Admission to paediatric department(days)	51.1(38.0)	54.7(63.4)	46.7(18.6)	48.3(29.1)	41.4(34.8)	65.4(70.8)
[1]Serious fetal complications(%)	4(25.0)	6(23.1)	0(0)	1(10.0)*	3(15.8)*	9(50.0)*
[2]Serious maternal complications(%)	5(31.3)	9(34.6)	3(60.0)	1(10.0)*	6(31.6)#	12(66.7)*,#

[1]Serious fetal complications: severe asphxia, severe RDS, brain damage(ICH, PVL)
[2]Serious maternal complications: HELLP syndrome, abruptio placentae, eclampsia, retinopathy, lung edema

*:p=0.0613 *: p<0.05 #: p=0.0502

[結論と考察]重症妊娠中毒症の中でもpre-termの症例には母児に危険な兆候が認められない限り,妊娠の継続を図ることが特に児の予後改善に繋がる可能性がある[1].そこで重症高血圧を細分類し,それぞれの病態を明らかにし妊娠継続を前提とした管理のより適切なあり方について検討した.今回の検討から母体合併症の発症率は収縮期血圧よりも拡張期血圧の重症度に相関して有意に高くなった.[2]よってより拡張期血圧の高い症例は母児のリスクが大きく慎重に管理する必要があり,それでも早期の妊娠終結が必要となる場合がある.またこのような症例では肥満と慢性高血圧を背景にもち,早期発症型が多い.

一方,重症高血圧でもより程度の軽いものでは,慎重に管理する事によって妊娠期間を延長し母児の予後改善に繋がる可能性がある事が示唆された.

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