Conflict of Interest None

101

BLOOD PRESSURE AND CAPILLARY MICROCIRCULATION AT BIRTH IN INFANTS BORN TO MOTHERS WITH A HYPERTENSIVE DISORDER OF PREGNANCY

^{1,2}Muti Goloba*, ¹Rajendra Raghuraman*, ¹Uzma Khan*, ¹Nansi Botros, ¹Monique Klein, ¹Amelia Brown, ³Donovan Duffy, ⁴Nick Anim-Nyame, ⁵Duolao Wang, ⁶Isaac Manyonda, ^{1,2}Tarek F Antonios. ¹Molecular and Clinical Sciences Research Institute, St George's, University of London ²Blood Pressure Unit ³Neonatal Unit, and Obstetrics & Gynaecology Department, St George's University Hospitals NHS Foundation Trust, London ⁴Obstetrics & Gynaecology Department, Kingston Hospital NHS Foundation Trust, London ⁵Department of Clinical Sciences, Liverpool School of Tropical Medicine, Liverpool, UK

10.1136/heartjnl-2019-BCS.98

Background Hypertensive disorders of pregnancy (HDP) increase the risk of future cardiovascular disease including hypertension, stroke and diabetes mellitus not only in the affected women but in their offspring as well. Microcirculatory abnormalities and in particular capillary rarefaction (CR) are a hallmark of essential hypertension. We have previously reported that CR is found in individuals with established and borderline hypertension, and in normotensive individuals with a familial predisposition to hypertension. In a previous pilot study, we found that infants born pre-term to mothers with an HDP have significant CR at birth when compared to infants of normotensive mothers.

Methods In this BHF funded research, we studied 110 infants born to mothers with an HDP (87 were born with a normal birth weight (NBW) and 23 had low birth weight (LBW) and compared them to 284 NBW infants born at term to normotensive mothers (control group). We used intravital capillary microscopy to measure basal i.e. functional (BCD) and maximal i.e. structural (MCD) skin capillary densities according to a well-validated protocol. We used the Welch Allyn VSM 300TM monitor to measure the infants' BP. All infants were studied at birth, 3 months, 6 months and 12 months. We report here the results at birth.

Results Systolic BP was significantly higher in LBW (81.04±9.99mmHg, p=0.013) and NBW (76.91±11.64mmHg, p=0.043) infants of HDP mothers compared to infants of

normotensive mothers (73.69±10.71mmHg). There were no significant differences in diastolic BP. Both LBW and NBW infants born to HDP mothers had significantly higher BCD (mean difference of 13.66, 95%CI 6.82 to 20.51 cap/field; p<0.0001) and (mean difference of 5.40, 95%CI 1.72 to 9.08 cap/field; p=0.004) respectively compared to control group). They also had higher MCD (mean difference of 10.32, 95%CI 2.84 to 17.81 cap/field; p=0.007) and (mean difference of 3.87, 95%CI 0.19 to 7.94 cap/field; p=0.062) respectively compared to control group.

Conclusion Infants born to mothers with an HDP have significantly higher systolic BP at birth compared to infants of normotensive mothers. Furthermore, LBW infants of HDP mothers have a significantly higher BCD and MCD compared to NBW of normotensive mothers. Further follow-up studies of these infants are required to investigate the role of the microcirculation in the pathogenesis of essential hypertension.

Acknowledgement We thank the BHF for funding this research (PG/13/87/30550)

Conflict of Interest None

102

THE IMPACT OF GENDER AND MARITAL STATUS ON LONG TERM MORTALITY IN PATIENTS WITH CARDIOVASCULAR DISEASE: INSIGHTS UTILISING BIG DATA FROM THE ACALM STUDY

¹Rahul Potluri, ²Ahmed Qashou*, ³Paul Carter, ²Billal Patel, ²Ranjit More, ²Deepthi Lavu. ¹Blackpool Teaching Hospitals; ²Blackpool Teaching Hospital NHS Foundation Trust; ³ACALM Study Unit

10.1136/heartjnl-2019-BCS.99

Background Married patients with Acute Coronary Syndrome (ACS) have significantly improved mortality compared to single patients while the worst outcomes are seen among divorcees. The impact of gender, marital status and outcomes in patients with cardiovascular disease has been poorly studied. Using big data, we addressed this further by studying patients with ACS, Heart Failure (HF) and Atrial Fibrillation (AF).

Methods Anonymous information on patients with ACS, HF and AF, including comorbidities, was obtained from UK

Abstract 102 Table 1 Cox regression comparing mortality of males vs females in patients with ACS, HF and AF

Cox regression comparing mortality of males vs females in patients with ACS, HF and AF									
Marital Status	Acute Coronary Syndrome			Heart Failure			Atrial Fibrillation		
	Odds Ratio	95% C.I	P Value	Odds Ratio	95% C.I	P Value	Odds Ratio	95% C.I	P Value
Single	0.96	0.82-1.13	0.65	0.87	0.79-0.97	0.01	0.99	0.90-1.10	0.89
Married	0.98	0.92-1.05	0.59	1.03	0.98-1.08	0.16	1.06	1.02-1.11	<0.01
Divorced	1.06	0.97-1.16	0.20	1.04	0.97-1.11	0.24	1.14	1.07-1.22	<0.01
Widowed	1.11	1.02-1.21	0.02	1.10	1.04-1.16	<0.01	1.13	1.07-1.19	<0.01
Legally Separated	1.25	0.72-2.16	0.42	0.87	0.62-1.22	0.41	0.89	0.61-1.30	0.54

p < 0.05 taken as statistically significant. Odds Ratios < 1 show decreased mortality in males; > 1 in females

p < 0.05 taken as statistically significant. Odds Ratios < 1 show decreased mortality in males; > 1 in females