INTRODUCTION

• The physiologic and metabolic stress of pregnancy allows for pregnancy to be recognized as a woman’s first stress test and can help reveal characteristics of cardiovascular disease.

• Hypertensive disorders affect up to 8% of all pregnancies and result in a four-to-five fold higher risk of developing hypertension and a two-to-three fold increase risk of developing cardiovascular disease and possible mortality later in life.

• The purpose of this study is to explore the metabolic, inflammatory, vascular, and stress characteristics of women one year after a pregnancy complicated by chronic or gestational hypertension and compare them to women after a healthy pregnancy.

MATERIALS & METHODS

• Participants are recruited from the prospective Christiana Mom’s Cohort (n=523) at 12-18 months postpartum. Recruitment includes up to 60 women with gestational hypertension (GHTN), 60 with chronic hypertension (CHTN), and 60 women from the control cohort after a healthy pregnancy.

• The interview includes questions about medical history, behavioral risk factors, family history, lactation, and contraceptive methods.

• Social and behavioral health screenings include self-reported depression, stress, social support, and physical activity levels.

• Independent samples T-test and chi square analyses were completed using SPSS17.

• This study was approved by the CCHS IRB.

PRELIMINARY RESULTS

Table 1. Characteristics of Preliminary Patients (N=17)

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>Maternal Health</th>
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<tbody>
<tr>
<td>Age mean(SD)</td>
<td>32.8 (5.3)</td>
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<tr>
<td>Pregnancy Complication</td>
<td>Gestational Hypertension, N(%) 10 (58.8)</td>
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<tr>
<td>Race</td>
<td>Caucasian, N(%) 11 (64.7)</td>
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<td></td>
<td>Black/African American, N(%) 6 (35.3)</td>
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<tr>
<td>Ethnicity</td>
<td>Non-Hispanic, N(%) 16 (94.1)</td>
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<td>Health Insurance</td>
<td>Private, N(%) 14 (82.4)</td>
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<td></td>
<td>Medicaid, N(%) 3 (17.6)</td>
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<tr>
<td>Marital Status</td>
<td>Married, N(%) 12 (70.6)</td>
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<tr>
<td></td>
<td>Single, N(%) 5 (29.4)</td>
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<tr>
<td></td>
<td>Education</td>
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One Year Follow-Up

• Vascular Testing

• Standard brachial cuff blood pressure (BP) is measured using an automatic device; three measures will be obtained and averaged

• SphygmoCor

• Measures central blood pressure using the radial pulse through pulse wave analysis

• Measures vascular stiffness using pulse wave velocity measures at the carotid and femoral arteries

• EndoPAT

• Tests endothelial dysfunction by measuring blood flow before and after a 5 minute brachial artery occlusion

• Laboratory Work

• Measures dyslipidemia, insulin resistance and renal function

LIMITATIONS

This preliminary analysis has a small sample size. A larger sample size for hypertension complication and control groups will make for a more robust analysis and make multivariate analysis possible with greater validity.

CONCLUSIONS

• Preliminary analysis shows that the majority of our sample are Caucasian, married, have a college degree, and are privately insured.

• Overall, the majority of patients have a BMI that is considered overweight or obese.

• The patients had a median HDL level that is below the normal range for a healthy individual. The American Heart Association (AHA) recommends 50mg/dl or higher for women.

• Median LDL levels are higher than the normal range. AHA recommends 70 mg/dl or lower.

• Triglyceride levels are within the normal limit. AHA recommends 150 mg/dl or lower.

• Future work will focus on obtaining results from three-day food diaries, salivary cortisol measurements, and other inflammatory biomarkers.

• We are expecting to enroll 180 patients by Summer of 2013 and will complete an analysis comparing cardiovascular risk factors, assessments and results by complication type.

CLINICAL IMPLICATIONS

Pregnancy is known to be the first “stress test” for women with potential cardiovascular risks. Understanding who is at greatest risk could provide clinicians the opportunity to modify lifestyle behaviors.

ACKNOWLEDGEMENTS

References
