598 PREVENTION OF RH ALLOIMMUNIZATION:THE CURRENT TRENDS IN POSTPARTUM PROPHYLAXIS IN ONTARIO, CANADA JENNIFER SCHNARR[1], STEPHANIE WINSOR[2], [1]McMaster University, Obstetrics and Gynecology, Hamilton, Ontario, Canada, [2]McMaster University, Maternal Fetal Medicine, Hamilton, Ontario, Canada

OBJECTIVE: The development of Anti-D immunoprophylaxis has been primarily responsible for the dramatic reduction in the incidence of RH alloimmunization worldwide. It is clear, that when given postpartum, Anti-D reduces the risk of Rh alloimmunization. However evidence on the optimal dose is limited. As a result, guidelines for postpartum prophylaxis in Canada vary. The purpose of this study was to determine the current trends in postpartum prophylaxis in Ontario.

STUDY DESIGN: An online survey was electronically delivered to hospitals currently providing obstetrical care in Ontario. Information on hospital demographics and policy for postpartum prophylaxis including dosage, testing for fetomaternal hemorrhage and care provider compliance was obtained.

RESULTS: Thirty six hospitals participated in the online survey. All hospitals reported having a policy on postpartum RH prophylaxis that was adhered to by care providers 100% of the time. Vast differences in hospital policy were found. 44% of hospitals give eligible patients Anti-D 300μg IM with testing for fetomaternal hemorrhage (FMH) and additional Anti-D as necessary. 19% of hospitals give Anti-D 300μg IM with no testing for FMH. 13% of hospitals give Anti-D 120μg IM with testing for FMH and additional Anti-D as necessary. 3% of hospitals give Anti-D 120μg IM with no testing for FMH. Other reported policies include testing for FMH only when risk factors are present, and Anti-D dose based on mode of delivery.

CONCLUSION: Rh alloimmunization is a preventable cause of perinatal morbidity and mortality but continues to occur in 1-2% of susceptible women. Guidelines for postpartum prophylaxis in Canada vary. The results of this survey suggest the current policies in Ontario hospitals are similarly diverse. Further research to determine the optimal dose in the postpartum period is needed to produce clear national guidelines to minimize ongoing RH alloimmunization.

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599 POLYMORPHISMS IN THE PROMOTER REGION OF THE TUMOR NECROSIS ALPHA (TNF-) GENE IN WOMEN WITH CERVICAL INSUFFICIENCY JENNIFER WARREN[1], ROBERT SILVER[1], JESS DALTON[1], LESA NELSON[2], KRISTI NELSON[1], FLINT PORTER[1], WARE BRANCH[1], [1]University of Utah, Obstetrics and Gynecology, Salt Lake City, Utah, [2]University of Utah, CAMT, Perinatal Genetics Lab, Salt Lake City, Utah

OBJECTIVE: The etiology of cervical insufficiency (CI) is unclear but may involve inflammatory changes. Biomarkers for inflammation are elevated in the in the amniotic fluid of some women with CI. TNF-α is a cytokine with many proinflammatory activities. The G to A polymorphism at position -308 in the promoter region of this gene has been associated with higher production as well as preterm labor. In addition, single nucleotide polymorphisms (SNPs) at positions -857 and -863 in the promoter region contribute to transcriptional regulation of the gene. Thus, our objective was to determine whether these polymorphisms are more common in women with CI compared to those without CI.

STUDY DESIGN: Medical, obstetric, and family histories, and blood were obtained from women with (N = 122) and without (N = 157) CI. DNA was extracted and purified using Puregene Isolation kits. Samples were analyzed for the -308, -857, and -863 SNPs using allele specific PCR assays.

RESULTS: The polymorphisms in the TNF-α -857 position occurred with similar frequency in cases and controls. The AA genotype at the -308 position was present in 3.3% of cases vs. 1.3% of controls (NS). The TT polymorphism at the -863 position was detected in 2.5% of cases and no controls ($p = 0.08$, Fisher's exact test).

CONCLUSION: There was a trend toward an increase in the TT polymorphism at the -863 position. If this trend proves to be statistically significant as larger numbers of women are tested, it would suggest that a predisposition to inflammation may play a role in some cases of cervical insufficiency. Additional women are currently being recruited to achieve adequate power to confirm these trends.

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600 NUCLEAR FACTOR B1 (NF-B1) AND MATRIX METALLOPROTEINASE 9 (MMP9) POLYMORPHISMS IN WOMEN WITH CERVICAL INSUFFICIENCY JENNIFER WARREN[1], ROBERT SILVER[1], JESS DALTON[1], LESA NELSON[2], KRISTI NELSON[3], MICHAEL ESPLIN[1], MICHAEL VARNER[1], [1]University of Utah, Obstetrics and Gynecology, Salt Lake City, Utah, [2]University of Utah, CAMT, Perinatal Genetics Lab, Salt Lake City, Utah, [3]University of Utah and Intermountain Health Care, Obstetrics and Gynecology, Salt Lake City, Utah

OBJECTIVE: The etiology of cervical insufficiency (CI) is likely multifactorial, involving a combination of influences such as immune response, inflammation, and proteolytic activity in the cervix. A number of immune response genes have NF-κB binding elements in their promoters. One of the members of this family of transcription factors, NF-κB1, has been associated with regulation of inflammatory cytokines. Increases in gestational tissues of the matrix metalloproteinase 9 (MMP-9) enzyme are associated with fetal membrane rupture and parturition. Thus, our objective was to determine whether polymorphisms in the genes coding for these elements are more common in women with CI compared to those without the condition.

STUDY DESIGN: Medical, obstetric, and family histories, and blood were obtained from women with (N = 122) and without (N = 157) CI. DNA was extracted and purified using Puregene Isolation kits. Samples were analyzed for the NF-κB1 4 bp insertion/deletion at the -94 position and the MMP9 Q279R SNP using allele specific PCR assays.

RESULTS: The insertion and deletion polymorphisms for NF-κB1 occurred with similar frequency in the cases and controls. The AA genotype of MMP Q279R occurred in 43.0% of cases and 45.2% of controls. The AG polymorphism was detected in 48.2% of cases and 46.6% of controls, and the GG polymorphism occurred in 8.7% of cases and 8.2% of controls (p = NS).

CONCLUSION: There were no differences in the polymorphisms in the genes responsible for NF-κB1 transcription factor and the MMP9 enzyme between women with cervical insufficiency and controls in our analysis. Therefore, these polymorphisms are unlikely to be major components of genetic predisposition to this condition.

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601 SECOND-TRIMESTER MATERNAL SERUM AFP AND FREE ß-HCG IN ALPHA-THALASSEMIA AFFECTED PREGNANCIES JIAXUE WEI[1], CAN LIAO[1], JIEYING ZHOU[1], JIAN LI[1], DONGZHI LI[1], [1]Guangzhou Maternal & Neonatal Hospital, Perinatal Institution, Guangzhou, Guangdong, China

OBJECTIVE: To investigate whether the maternal serum free ß-HCG, AFP are related to fetal alpha-thalassemia status and the results of Down's syndrome screening are also influenced in pregnancies that both parents are with –sea/aa mutation.

STUDY DESIGN: 108 singleton pregnancies that both parents were with –sea/aa mutation were screened for Down's syndrome with maternal serum free ß-HCG and AFP and underwent cordocentesis for diagnosis of fetus alpha-gene status in second trimester.

According to the fetus gene status, these cases were divided into 3 study groups: Bart's hemoglobin group; –sea/aa mutation group and normal group. Another 85 singleton pregnancies without maternal and fetal complications and with normal Down's syndrome risk were random chosen to be the control group. The data of study groups were compared using the SPSS 11.5 statistical software package to the control group.

RESULTS: Maternal serum free ß-HCG and AFP MOMS were markedly elevated in Bart's hemoglobin group, while no cases were screened to be high risk for 21-trisomy in this group. No significant difference of both maternal serum markers were found in other 2 study groups compared to control group.

CONCLUSION: The maternal serum free ß-HCG, AFP aren't influenced by maternal and fetus alpha-thalassemia status except in the condition of Bart's hydrops fetalis that both markers are elevated, but the risk for 21-trisomy aren't raised for the reason that both elevated markers tend to cancel each other's effect out.

Comparison of data for study groups to control group

	Bart's group (n=26)	–sea/aa group (n=53)	Normal group (n=28)	Control group (n=85)
Age (years)	27.7±3.9 P=0.661	27.8±3.5 p=0.872	28.0±3.9 p=0.70	28.8±3.9
Days of gestation	115.8±10.6 p=0.234	116.8±11.8 p=0.499	114.4±11.2 p=0.109	114.8±13.3
Free ß-HCG Mom	2.25±1.18 p<0.001	1.23±0.50 p=0.976	1.31±0.46 p=0.900	1.25±0.46
AFP Mom	2.02±1.00 p<0.001	1.14±0.28 p=0.064	1.20±0.26 p=0.072	1.05±0.37

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