

Introduction and objectives

- Preeclampsia (PET) and Haemolysis, Elevated Liver enzymes, Low Platelets (HELLP) syndrome are significant pregnancy related conditions that are leading causes of maternal and perinatal morbidity and mortality¹.
- HELLP syndrome is considered a severe variant of PET, however, the relationship between the two is controversial².
- Studies comparing risk factors associated with severe PET to HELLP syndrome are scarce.
- This study was performed to compare baseline characteristics in women with severe PET and HELLP syndrome, to determine if there are differing risk factors to predict the onset of either diagnosis.

Methodology

- Retrospective observational study carried out at a tertiary centre, the Royal Brisbane and Women's Hospital, Australia
- 249 women identified as having severe PET or HELLP syndrome; 209 women met inclusion criteria
- Inclusion criteria: ISSHP criteria for severe PET³, Tennessee Classification for HELLP syndrome¹

Results

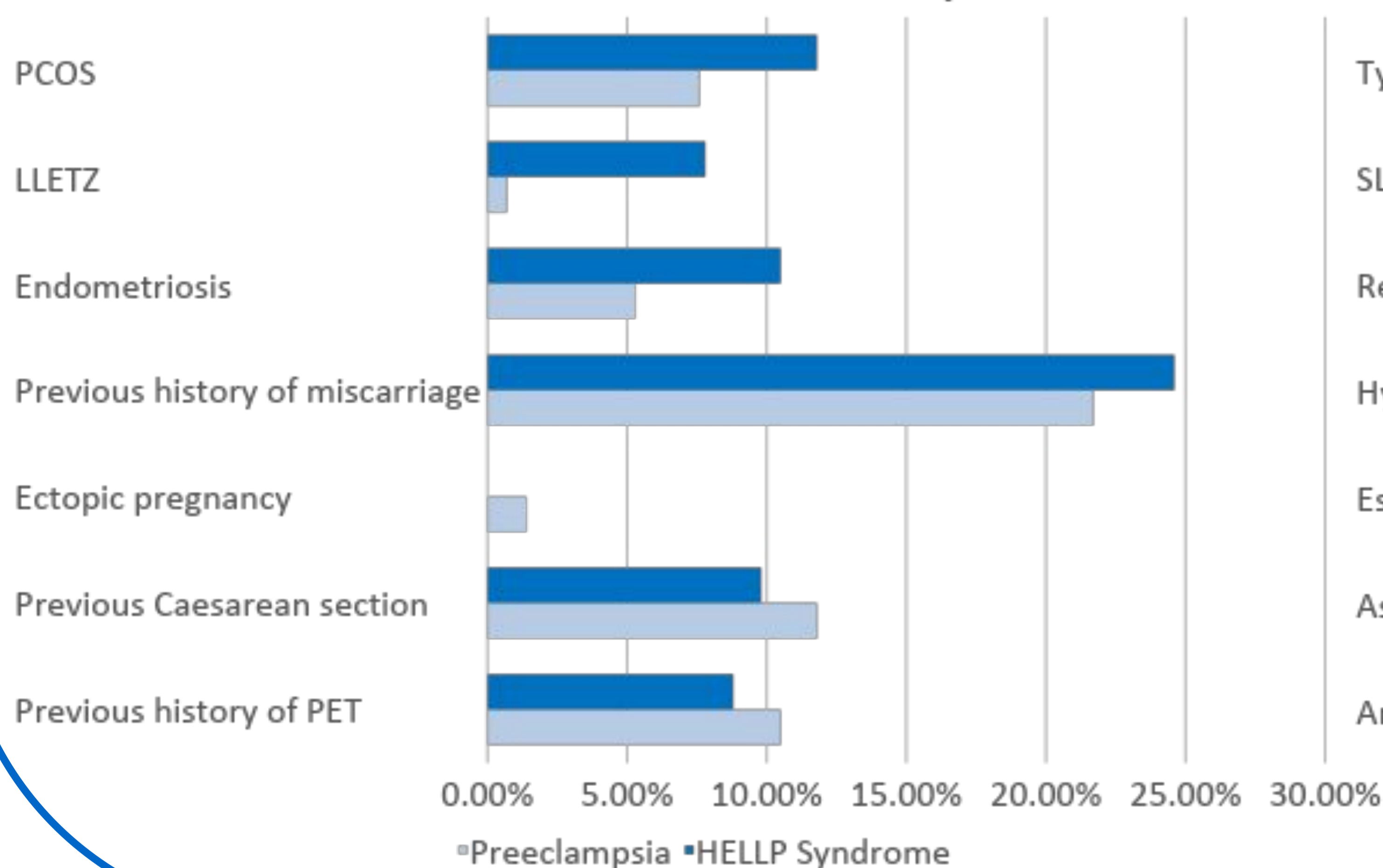
Table 1: Comparing maternal baseline characteristics between those with severe PET and HELLP syndrome

	Severe PET N = 152	HELLP syndrome N = 57	P value
Age (median (IQR))	30 (25, 34.75)	30 (25.5, 34.5)	0.92
Gravidity (median (IQR))	2 (1, 3)	1 (1, 3)	0.54
Parity (median (IQR))	0 (0, 1)	0 (0, 1)	0.72
BMI (median (IQR))	25.8 (22.10, 30.90)	24.3 (21.15, 29.75)	0.29
Ethnicity (%)			0.81
• Caucasian	77.1%	78.4%	
• ATSI	5.6%	2.0%	
• Asian	4.9%	5.9%	
• Other	12.5%	13.7%	

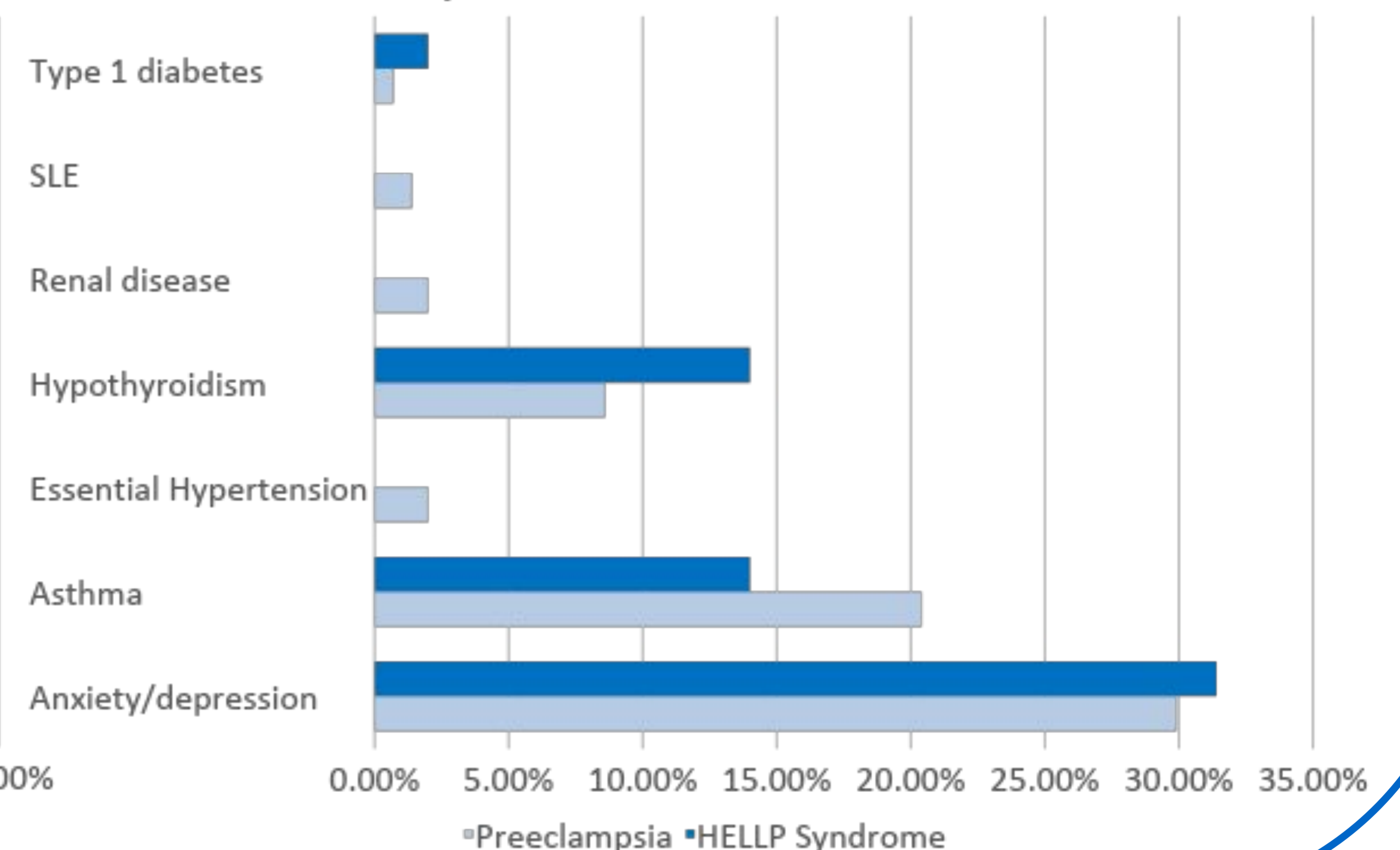
Other results

- Fetal sex:
 - In the severe PET group 52.1% were male and 47.9% were female
 - In the HELLP syndrome group, 56.9% were male and 43.1% female
- 17.9% of mothers in the severe PET group smoked, compared to 8.2% in the HELLP group; this was not statistically significant (p=0.11)

Comparing maternal past Obstetric and Gynaecological history between those with PET and HELLP syndrome



Comparing maternal past medical history between those with PET and HELLP syndrome



Discussion

- Our study found that renal disease was more common in the severe PET group, similarly to the study conducted by Lisonkova et al⁴. However, in contrast to our findings they reported that essential hypertension and asthma were more common in those with HELLP syndrome.
- We found that women diagnosed with severe PET were more likely to have a past history of PET or essential hypertension, which was in keeping with the findings of Weiner et al⁵.

Conclusion

- Our results demonstrate some common risk factors amongst both groups, however, there were some differences between the groups as described.
- In order to better characterise risk factors to help predict emergence of disease, it would be beneficial to conduct larger, prospective studies.
- If we can predict those women who are at higher risk for developing HELLP syndrome, this would help in early screening and diagnosis to improve outcomes.

References

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2. Weiner E, Schreiber L, Grinstein E, et al. The placental component and obstetric outcome in severe preeclampsia with and without HELLP syndrome. Placenta. 2016 Nov;47:99-104
3. Brown MA, Magee LA, Kenny LC, et al. The hypertensive disorders of pregnancy: ISSHP classification, diagnosis & management recommendations for international practice. Pregnancy Hypertens. 2018 Jul;13:291-310.
4. Lisonkova S, Bone JN, Muraca GM, et al. Incidence and risk factors for severe preeclampsia, hemolysis, elevated liver enzymes, and low platelet count syndrome, and eclampsia at preterm and term gestation: a population-based study. Am J Obstet Gynecol. 2021 Nov;225(5):538.e1-538.e19
5. Weiner E, Schreiber L, Grinstein E, et al. The placental component and obstetric outcome in severe preeclampsia with and without HELLP syndrome. Placenta. 2016 Nov;47:99-104