Gestation sac shape, sub-chorionic haematoma and vaginal bleeding as predictors of viability in intrauterine pregnancies of uncertain viability (IPUV)

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Objectives

To assess the potential influence of vaginal bleeding, pain, gestation sac shape (GSS), and the presence or absence of subchorionic haematoma (SCH) in predicting viability among intrauterine pregnancies of uncertain viability (IPUV). We hypothesized that these soft markers may predict the outcome in this group, and a miscarriage index can be potentially designed to prospectively identify (IPUV) that are destined to miscarry at an earlier stage.

Methods

Seventy-eight cases of IPUV were prospectively followed-up after 7 to 10 days according to the national guidelines. Symptoms of vaginal bleeding and pain were recorded. GSS was described using agreed criteria (well rounded shape, smooth surface and free edges); SCH site was documented and crosschecked by two examiners. Descriptive analysis using the two-sided Fisher exact test was performed to establish the influence of each parameter on the outcome at the second scan.

Results

The final study group consisted of 78 pregnancies, from which 47 remained viable, 17 non-viable and 14 miscarried completely before the second scan. An irregular sac shape occurred significantly more in non-viable pregnancies (p=0.0064). Presence of SCH, vaginal bleeding (with or without clots) and pain were not statistically significant predictors of non-viability in our dataset. Regular sac shape was very sensitive for predicting viable pregnancies (91%) with a specificity of 41%, (PPV =80% and NPV= 64%).

Conclusion

Regular GSS can be used to predict viability among intrauterine pregnancies of uncertain viability (IPUV), whereas an irregular sac is invariably associated with miscarriage. Our data suggest that describing sac shape would be a useful adjunct to the diagnostic performance of ultrasound in early pregnancy. A larger sample size is needed to investigate the effect of SCH, pain and vaginal bleeding on viability in IPUV. A risk of miscarriage index could potentially be designed and tested in respect of the above parameters.