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ABSTRACT

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CAN MISCARRIAGE BE ACCURATELY PREDICTED IN EARLY PREGNANCY USING TRANSVAGINAL ULTRASOUND PARAMETERS?

INTRODUCTION:

ULTRASOUND IS OFTEN THE FIRST LINE OF INVESTIGATION WHEN EVALUATING EARLY PREGNANCY. CURRENT NICE GUIDELINES REGARDING CONFIRMATION OF MISCARRIAGE ARE RESTRICTIVE AND CAN OFTEN MEAN THAT THE FIRST ULTRASOUND SCAN IS INCONCLUSIVE LEADING TO INCREASED STRESS FOR PATIENTS AND FURTHER SCANS AND INVESTIGATIONS. THERE HAVE BEEN SEVERAL STUDIES UNDERTAKEN TO EVALUATE THE ULTRASOUND PARAMETERS THAT CAN PREDICT MISCARRIAGE THAT HAVE THE POTENTIAL TO BE USED IN CLINICAL PRACTICE ALLOWING BETTER COUNSELLING OF PATIENTS REGARDING THEIR RISK OF PREGNANCY LOSS.

AIM:

TO UNDERTAKE A LITERATURE REVIEW TO COLLATE THE EVIDENCE AND EVALUATE THE ULTRASOUND PARAMETERS THAT MAY PREDICT EARLY PREGNANCY LOSS.

METHODOLOGY:

A SYSTEMATIC LITERATURE SEARCH WAS UNDERTAKEN USING PUBMED AND SCIENCE DIRECT INCLUDING LITERATURE PUBLISHED FROM 2012 TO 2022. INCLUSION AND EXCLUSION CRITERIA WERE APPLIED AND ANY LITERATURE SUITABLE FOR INCLUSION WAS CRITICALLY APPRAISED USING THE CASP FRAMEWORK.

RESULTS:

MEAN SAC DIAMETER, CROWN-RUMP LENGTH, YOLK SAC DIAMETER AND EMBRYONIC/FETAL HEART RATE CAN BE USED TO PREDICT PREGNANCY LOSS. MULTIVARIATE PREDICTIVE MODELS COMBINING THESE PARAMETERS DEMONSTRATED A SENSITIVITY OF 72.5% AND SPECIFICITY OF 98.4% SUGGESTING THAT THEY MAY PROVE USEFUL IN CLINICAL PRACTICE HOWEVER; THESE WOULD NEED TO BE EVALUATED ON A LARGER SCALE IN MULTICENTRE TRIALS TO IMPROVE VALIDITY.

CONCLUSION

MULTIVARIATE PREDICTIVE MODELS USING ULTRASOUND PARAMETERS CAN PREDICT MISCARRIAGE WITH A GOOD DEGREE OF ACCURACY AND COULD BE USED IN CLINICAL PRACTICE TO FACILITATE BETTER COUNSELLING OF PATIENTS.