

JOURNAL REVIEW

Limitations of current definitions of miscarriage using mean gestational sac diameter and crown–rump length measurements: a multicenter observational study

Abdallah Y, Daemen A, Kirk E, *et al.* *Ultrasound Obstet Gynecol* 2011;**38**:497–502

It is very important that a timely and accurate diagnosis of miscarriage is made to avoid unnecessarily prolonged periods of uncertainty for the couple involved. However it is absolutely vital that a potentially ongoing pregnancy is definitely excluded. Guidelines from the Royal College of Obstetricians and Gynaecologists (RCOG) have helped standardise the ultrasound criteria that can be used to accurately diagnose an inevitable miscarriage. The RCOG guidelines are based on expert opinion and highlight two diagnostic features: a fetal size of ≥ 6 mm with no heartbeat and a

mean pregnancy sac diameter (MSD) of ≥ 20 mm with no yolk sac or fetal pole. Otherwise the outcome is a pregnancy of uncertain viability and a repeat scan is performed in 7–14 days.

In this study the authors assessed the cut-off values for the fetal size and MSD that can definitely diagnose a miscarriage. They recruited 1172 women at four London hospitals with a pregnancy of uncertain viability. After excluding cases with incomplete data, the outcome of the remaining 1060 pregnancies was assessed at the end of the first trimester when 473 were viable. When a fetus was visible with an absent heartbeat ($n=179$) only two cases were found at 4 mm or above that were ultimately viable. They were both recruited from the same hospital and measured 5.2 mm. When there was a sac with no contents ($n=462$) one case was found with a MSD of 18 mm and another of 20 mm that were ultimately viable.

Overall in this study one ultimately viable pregnancy could have been diagnosed as a miscarriage using the current guidelines. However, as there is inter-observer variation in scan measurements the

authors conclude that the current definitions are potentially unsafe. They suggest that the diagnostic criteria be increased to a fetal size of >7 mm with no heartbeat and a MSD of >25 mm with no contents. The RCOG has issued intermittent guidance supporting these revised values. It is not known if the findings would be different in the units where confirmatory scans are routinely available. The Association of Early Pregnancy Units already recommends that a scan diagnosis of miscarriage is confirmed by a second ultrasonographer. This study, however, highlights the need to be cautious at the limits for diagnosis of miscarriage and for ongoing audit and scrutiny of guidelines.

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Competing interests None.

Provenance and peer review Commissioned; internally peer reviewed.

J Fam Plann Reprod Health Care 2012;**38**:22.
doi:10.1136/jfprhc-2011-100249