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28 February 2015.

Quality and productivity category
Right care

Relevant codes
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Programme budget:
Maternity and reproductive health.

Evidence

Relevance to the NHS
The Cochrane review identified five randomised controlled trials involving more than 14,000 women and babies looking at the use of routine Doppler ultrasound of the baby’s vessels in pregnancy. The studies were not of high quality and were all undertaken in the 1990s. No differences in perinatal mortality were demonstrated overall, although heterogeneity was considerable, and the number of participants remained too small to detect small but potentially significant changes in perinatal outcome.

Results from one trial suggested that routine Doppler ultrasound in unselected pregnancies assessing both umbilical and uterine artery Doppler may do more harm than good, but the authors acknowledged that the increase seen in perinatal deaths was an unexpected finding that may have occurred by chance. Another study showed an unexpected finding of a greater risk of intrauterine growth restriction in the group that had serial ultrasound and Doppler examination. The authors stated that statistical analyses indicated that this was probably not a chance effect, and that frequent exposure to ultrasound may have influenced fetal growth. This finding was not associated with increased perinatal morbidity and mortality, and follow-up of these children at age 1 year found that the difference in growth was no longer discernible.

Because both of these studies suggest the possibility that the investigation may cause more harm than good, it raises the need for further investigation of the effects of frequent ultrasound exposure on fetal growth. Overall no improvements were identified for either the baby or the mother, by using Doppler ultrasound routinely in low-risk pregnancies.

Relevant NICE guidance and products

Antenatal care for uncomplicated pregnancies – NICE clinical guideline 62 (published: March 2008; reviewed and placed on the static list following consultation with stakeholders: February 2014)

1.10.3 Routine Doppler ultrasound should not be used in low-risk pregnancies.

Other accredited guidance and products

Finnish Medical Society Duodecim: Ultrasound scanning during pregnancy
02 April 2014.
Clinical Knowledge Summaries Antenatal care - Antenatal care - uncomplicated pregnancy
March 2011.

Potential productivity savings

Estimate of current NHS use

Level of productivity savings anticipated
- This practice is consistent with NICE guidance on antenatal care for uncomplicated pregnancies.
- All maternity ultrasound scans are included in the antenatal tariff of the maternity pathways payments system so there is no saving for commissioners.
- Where this is current practice staff time will be released for other work and release ultrasound capacity. This may reduce waiting times.

Type of saving
- No cash savings expected but increased availability of staff which may reduce waiting times

Any costs needed to achieve the savings
- There is not likely to be a cost barrier to change.

Other information
- This is likely to benefit NHS provider trusts.

Potential impact on quality of NHS care

Impact on clinical quality
No significant improvement in clinical quality anticipated.

Impact on patient safety
No clear predicted impact on patient safety from current evidence. More research is required to establish if patient safety will be improved.

Impact on patient and carer experience
Improved patient and carer experience anticipated.

Likely ease of implementation

Time taken to implement
Can be achieved quickly: 0–3 months.

Healthcare sectors affected
Affects a whole organisation across a number of teams or departments.
Stakeholder support
Likely to achieve good buy-in from key influencers.

References

Accessed December 2015