
Students' Corner

Letter to the Editor

Is routine ultrasound in the third trimester essential for an expectant mother receiving antenatal care?

Madam, An expectant mother is an individual who requires all the attention at the right time with the required amount of efficiency. Pregnancy in itself is an uphill task for a woman, who faces many emotional, physiological and psychological changes. It is estimated that globally 529,000 women die during childbirth and not surprisingly, 95% of those deaths occur in Africa and Asia.¹ For this daunting task, there has been substantial amount of importance laid on antenatal care. The average woman receives approximately 150 or more specific or routine tests and examinations in many countries, which makes the evaluation of the broad range of antenatal care provided; a challenge.² Several antenatal screening tests, such as screening for pre-eclampsia, Rh-blood typing, iron deficiency anaemia, corticosteroids for pre-term births and treatment for diabetes during pregnancy are essential for a pregnant mother.² Now the question arises, is it essential for pregnant women to have an ultrasound in the third trimester and what are the risk factors associated with it?

According to WHO, "Routine third-trimester ultrasound examination of the foetus is not recommended. There is insufficient evidence to recommend for or against routine ultrasound examination in the second trimester in low-risk pregnant women."² This has also been supported by The Cochrane Review.² There are some undeniable facts about ultrasound. It allows for transformation of one form of energy (sound) to another (heat). This generates positive and negative pressures leading to a phenomenon called acoustic cavitation.

Now the question arises, is it harmful for tissues.

"Hyperthermia is a proven teratogen for humans" but a rise of 1.5 C is necessary to cause damage.³ The skull bone has a high acoustic absorption coefficient. This absorbed energy is transformed to the bone and cerebral cortex. It is indicated that the amount of energy absorbed is directly proportional to the mineralization of foetal bone. Which leads to the conclusion that 'worst-case heating' can occur late in pregnancy after the second trimester. The ultrasound induced heat is not as immense in the earlier period of embryonic growth where there is absence of bone.⁴

To conclude, this innovative yet simple diagnostic tool has served many important functions and its disadvantages are still being searched for. But for a device so useful, it is doubtful that identification of minor risks would prevent its use in a world where everyday maternal and foetal mortality is at stake.

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References

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