

3D ultrasound and MRI, how to use in Perinatal Medicine

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It became possible to get various kinds of information about the mother and fetus during pregnancy by using ultrasonography (USG). In fact, advance of USG is fantastic. Recent topic of USG is 3D imaging. While we are really surprised at its sensational image, we may not understand how to use this wonderful tool for parents and fetus. Can we answer the simple question why 3D ultrasonographic imaging is necessary? I try to answer this question using 3D equipment, MEDISON ACCUVIX XQ.

Every mother and father excited at 3D image of the fetus, especially at fetal face. But I found several unexpected result from the early phase of pregnancy. In case of twin pregnancy it is easy to explain its chorionicity. Furthermore, 3D image made mother more positive to continue her risky

pregnancy.

ACCUVIX XP has a new way of imaging which is called Multi-Slice View.

This technology transforms 3D volume data obtained from a regular ultrasound scan into a series of sequential images captured in intervals of 0.5mm to 3mm segments. It brought the image of feeding artery in case of sequestration of the lung.

Nobody can deny the usefulness of USG. However, unsatisfactory results are obtained in some cases due to maternal fat tissue, fetal position or some other reasons. Magnetic resonance imaging (MRI) can provide clear images from multiple angles without X-ray exposure. If we cannot get useful information about the mother or fetus using USG, we really need some tool not subject to the weak points of USG in order to obtain information vital for the health of the mother and fetus. MRI has the ability unlike USG to provide information different from that obtained using USG. MRI is not always superior to USG, indications for MRI during pregnancy are limited but definite. MRI is ,in general, useful as a tool further

evaluation of problems that are first detected by USG. When MRI is performed in some cases, we must consider the purpose of the MRI and according determine the appropriate procedure that would provide the most precise and useful diagnostic information.