USE OF TRANSVAGINAL ULTRASOUND IN THE FIRST TRIMESTER

As a legal and medical standard of practice, NIFLA strongly recommends the use of the transvaginal probe in the early stages of pregnancy when providing ultrasound. Such probe usage should routinely be performed up to eleven weeks gestational age LMP.

In our mission to provide life-affirming services to women in crisis pregnancies, we must always look for ways to reach such patients with the reality of the life of the unborn. The arrival of ultrasound and its improved resolution over the last forty years has had a monumental impact on the confirmation and affirmation of life in utero.

The majority of ultrasound scans performed in the pregnancy help medical clinic (PHMC) are in the first trimester of a pregnancy. Many such scans are performed as early as six weeks gestational age LMP. The transvaginal ultrasound probe offers the best image resolution in the early stages of pregnancy. According to one of the most widely respected texts on obstetrical/gynecological ultrasound, “High-resolution transvaginal sonography (TVS)... has gained acceptance as an integral part of gynecologic and early obstetric sonographic examinations... As with all ultrasound applications, it is standard practice to use the highest possible transducer frequency, which allows visualization of target organs. Using TAS (transabdominal sonography), visualization of pelvic organs is limited by body habitus owing to sonic attenuation (loss of ultrasound energy with distance from the probe).... TVS should be incorporated into the examination in all situations in which it will provide additional clinically useful diagnostic information. Indications for TVS include: ...Early first trimester obstetric sonography... In general, TAS is performed first, and then TVS is performed after the patient empties the urinary bladder.”

(Pertinent medical literature recommends the use of vaginal transducers of at least 5 MHz to determine the presence of a viable intrauterine pregnancy in the early stages of pregnancy. The Callen text, quoted above, advises that all such ultrasound examinations start with abdominal scanning in order to obtain a global view of the pelvis. This enables the sonographer to locate the uterus, and gain an...
initial idea of gestational age, as women often do not know the date of their last menstrual period.

Following the panoramic TAS, the TVS should be employed to gain clear resolution of the contents of the uterus, the yolk sac, fetus and its beating heart. The TVS is needed to “visualize the baby better,” says NIFLA Medical Director Byron Calhoun, MD – Vice Chairman of the Department of Obstetrics and Gynecology at University of West Virginia Medical School.

In early pregnancies many times a yolk sac in the uterus cannot be identified with TAS alone. In such cases it is not possible to rule out an ectopic pregnancy. Therefore, following the panoramic transabdominal scan, the transvaginal scan should be used to provide a clear diagnosis.

Visualization of the fetal structures in early pregnancy is also difficult to image with TAS alone in cases of maternal habitus. In these instances the patient’s large abdomen may prevent placing the transabdominal probe close enough to the uterus to obtain clear images. (Ultrasound waves attenuate the farther they must travel from the probe to the area of interest – the baby.) In such cases ultrasound resolution is degraded and the determination of the location of the pregnancy sac may be impossible. TVS then is necessary to rule out an ectopic pregnancy and to make a proper diagnosis – essential for the woman’s safety. An ectopic pregnancy is a life-threatening event; a woman with a ruptured ectopic could bleed to death within a half hour.

Women are encouraged to obtain abortions early because pregnancy complications increase in proportion to gestational age. Since most abortions take place between six and nine weeks such women are the most likely to be seen and scanned in the PHMC. This is an opportune time to make the case for life and present the most accurate information and prenatal images to the patient. In these cases TVS is the most effective tool.

Ultrasonography is all about obtaining optimal images and TVS provides superior imagery for women though most of the first trimester of pregnancy. Offering only TAS in the early stages of pregnancy does not, in most cases, provide a woman with clear and convincing evidence of the life within her. As such, TAS alone in the early stages of pregnancy is a legally risky venture because it does not provide medical services that are in accordance with currently expected medical standards of practice.

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