velocities directly through a color display map. This study was undertaken to validate this technique for measuring peak systolic velocity compared to the pulsed-wave Doppler method in human fetuses. Twenty normally developing fetuses were included in the study. The fetal abdominal aorta and the umbilical artery were studied in 12 and eight cases, respectively. We first estimated flow velocity using time domain ultrasonography and immediately after pulsed Doppler was used. The intraclass correlation coefficient was used to assess the agreement between measurements. A close correlation was found (intraclass correlation coefficient = 0.96). Our results show that time domain ultrasonography seems to be a valid technique for imaging fetal vessels and for measuring blood flow velocity.

Key words: Time domain processing, Doppler, Blood flow velocity, Fetus.

Transvaginal ultrasonography combined with color velocity imaging and pulsed Doppler to detect residual trophoblastic tissue

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Abstract of:

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The value of transvaginal B-mode ultrasonography combined with color velocity imaging and pulsed Doppler to detect retained trophoblastic tissue was evaluated prospectively in a series of 40 patients with postpartum (n=15) or postabortion (n=25) bleeding. Color velocity imaging was used to identify color-coded blood flow signals within myometrium and/or endometrium. Flow was subjectively quantified as absent, scanty or abundant. Pulsed Doppler was used to assess blood flow impedance by calculating the resistance index. The presence if abundant flow with a lowest resistance index of less than 0.45 was considered as suspicious of residual trophoblastic tissue. Twenty-two (55%) out of the 40 patients underwent dilatation and curettage and chorionic villi were demonstrated in 15 of these. Eighteen (45%) patients were managed conservatively. None of these patients suffered complications or needed readmission for curettage, and all of them were considered as not having retained tissue. On color pulsed Doppler ultrasound examination, 15 patients had suspected retained tissue; all of these underwent curettage and residual trophoblast was found in 14 (93.3%). Out of 25 patients considered as having no residual tissue on color pulsed Doppler ultrasound examination, seven underwent curettage and chorionic villi were found in one patient (false-negative rate 6.7%). All patients managed conservatively had an unsuspicious scan. We concluded that transvaginal ultrasonography combined with color velocity imaging and pulsed Doppler could be useful to detect retained trophoblastic tissue and to select patients suitable for conservative management.

Key words: transvaginal ultrasonography, color velocity imaging, pulsed doppler, residual trophoblast.