



Color Doppler in Fetal Hypoxia: An aid in diagnosing, managing and timely termination

Kuldeep Singh

Director Ultrasound and Color Doppler Clinic, India

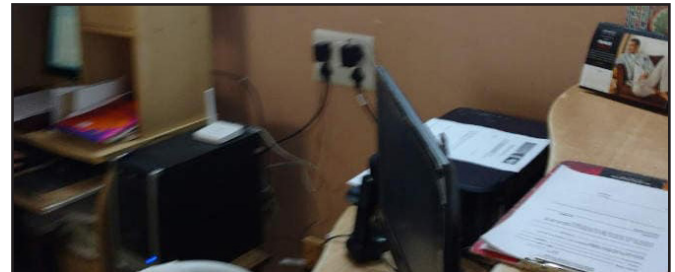
Abstract:

The uteroplacental and fetoplacental circulations can be assessed by color Doppler a non-invasive method for understanding and studying fetal circulations. The uterine artery flow tells us the status of the uteroplacental circuit. The umbilical artery, middle cerebral artery, descending aorta, ductus venosus and umbilical vein study tells us the fetal adaptation to any hypoxic insult. With impaired placentation causing changes in the uterine artery one needs to be carefully surveying the fetal circulation for any adaptive changes. With hypoxic insult the blood flows preferentially to vital organs like the brain, heart and adrenals with compensatory shunting from the non-vital organs the abdominal viscera and lower limbs. The three ratio Systolic/Diastolic ratio, Pulsatility Index and Resistive Index are markers of resistance and thus are reflecting impedance values which are inversely proportional to the amount of blood flow in the respective vessel or organ. So brain sparing causes a high PI and brain edema would finally cause a rise in the Middle cerebral artery PI.

This tool finally helps us to fine tune the administration of steroids in a premature fetus and timely termination of pregnancy to reduce the stay of the neonate in the ICU and reduce neonatal morbidity and mortality.

Biography:

Dr. Kuldeep Singh has been practicing ultrasound for over 18 years in South Delhi, India. He is known for his ultrasound skills in Anomaly Scanning, Color Doppler Scanning, and High risk pregnancy evaluation. He has more than 150 lectures in various national and international conferences. He has more than 100 articles and chapters to his credit and has authored 16 books on Ultrasound in Obstetrics, Gynecology and Infertility. His books have been translated



into Spanish, Chinese and Portuguese. The IMAGING SCIENCE AWARD was honored to him at the AICOG 2008. He has been appointed as associate director of Ian-Donald Inter-University School of Medical ultrasound.

Recent Publications:

1. Kuldeep Singh et al; How Do Patients Who Fail First-Line TB Treatment but Who Are Not Placed on an MDR-TB Regimen Fare in South India?, 2011 Oct 11.
2. Kuldeep Singh et al; Adapting Policy Guidelines for Spine Surgeries During COVID-19 Pandemic in View of Evolving Evidences: An Early Experience From a Tertiary Care Teaching Hospital, 2020 Jul 11.
3. Kuldeep Singh et al; Awareness, medication adherence, and diet pattern among hypertensive patients attending teaching institution in western Rajasthan, India, 2020 May 31.
4. Kuldeep Singh et al; Medical Education During the COVID-19 Pandemic: A Single Institution Experience, 2020 May 4.
5. Kuldeep Singh et al; 1,2,3-Triazole β -lactam conjugates as antimicrobial agents, 2020 Jun 27.