

INTRODUCTION

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High risk pregnancy is broadly defined as one in which the fetus, mother is or will be at increased risk for morbidity or mortality (Sokol et al., 1991). Normal pregnancy outcome is dependent on the development of an adequate umbilical and uterine blood flow (Schulman et al., 1986).

Several studies of the blood flow waveforms, in these vessels with a continuous wave Doppler ultrasound provides a mean of studying these circulatory beds by a non invasive and apparently safe way (Trudinger et al., 1985).

The umbilical artery blood flow velocity waveforms can be differentiated from other fetal signals by recognition of pattern of the waves (Schulman, 1987).

The systolic peak of the velocity wave is divided by the end diastolic value giving an systolic over diastolic ratio (S/D ratio) (Brian et al., 1985). Assessment of umbilical blood flow using Doppler waveform may help to identify the risk for possible placental insufficiency (Sokol et al., 1991).

In normal pregnancy there is a steady fall in peripheral resistance in umbilical and placental circulation and hence a progressive increase in end diastolic flow. Reduced, absent or even reversed end diastolic flow velocity may occur in pregnancies complicated by severe intrauterine growth retardation and hypertension. Such waveforms are associated with an increased risk of perinatal death (Trudinger et al., 1985).