Objectives: Our standard experience in first trimester ultrasound has taught us to use predominantly pulsed Doppler for the diagnosis of tricuspid regurgitation. However, from our collaboration with cardiologists in the postnatal evaluation of tricuspid and mitral regurgitation we have learned the benefits of color Doppler. For the last year, from April 2017 to April 2018, we have used both color Doppler and pulsed Doppler in the evaluation of the tricuspid valve for 11-13+6 weeks scan, to study the effectiveness of using both for improving tricuspid regurgitation detection rate.

Methods: We enrolled 1754 patients in our study that had presented for first trimester screening in our department. We used both color Doppler and pulsed Doppler to interrogate the tricuspid valve. The standard approach we consented to, was to use pulsed Doppler - as routinely done, and then to look with color Doppler for any signs of an anomaly.

Results: Though theoretically both methods should offer similar results, we found a 10% increase in correct diagnosis of tricuspid regurgitation after using both methods – the increase being obtained from cases where the gate was incorrectly placed and not all three valves function was correctly assessed, cases where color Doppler signaled a problem. All cases were confirmed with pulsed Doppler reassessment.

Conclusion: Using Color Doppler improves detection of tricuspid regurgitation at the 11-13+6 weeks ultrasound.