Perfusion index and left ventricular output correlation in healthy term infants.

Perfusion index (PI) is a non-invasive marker of peripheral perfusion which is detected by an oximeter. We aimed to assess the correlation between PI and left ventricular output (LVO) in healthy term infants at the time of the screening for congenital heart disease (CHD). PI was measured at 48±2 h of life in the infant's right hand (PIrh) and in one foot (PIf) contemporary to SpO2 for CHD screening. Heart ultrasound was performed immediately after the screening procedure for measuring LVO. Forty-nine healthy term infants were studied. PIrh and PIf were 1.9 ± 0.6 and 1.9 ± 0.8, respectively, and their values were significantly correlated ($p < 0.0001$) with a coefficient r = 0.8. Bland-Altman analysis shows a mean difference of -0.06 ± 0.47 (95%LOA -0.98-0.86). PIrh correlates with LVO (r = 0.68) and LVO/kg (r = 0.61) with an increase of 151 mL/min (95%CI 103-198) of LVO and 42 mL/kg/min (95%CI 26-58) of LVO/kg per point of PIrh. PIf correlates with LVO (r = 0.74) and LVO/kg (r = 0.73) with an increase of 123 mL/min (95%CI 90-155) of LVO and 37 mL/kg/min (95%CI 27-47) of LVO/kg per point of PIf. CONCLUSION: PI is significantly correlated with LVO in healthy term infants. These results support the theoretical potential role of PI in the CHD screening.