

## CARDIAC OUTPUT DETERMINATION BY CONTINUOUS WAVE DOPPLER IN PERIOPERATIVE PEDIATRIC HEART SURGERY

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'Bridge to Transplant and Recovery', in the pediatric population, are accepted cardiothoracic surgical procedures. Absent, in the perioperative care of these patients, is a reliable, accurate and convenient method to frequently evaluate hemodynamics. Echocardiography although accurate, is not always available when needed.

The USCOM non invasive, transthoracic, Continuous Wave (CW) Doppler now offers us a clinical solution to this problem. We present a case where the USCOM device was used in the care of a pediatric 'Bridge to Recovery' patient. TL was a 16 month old (7.9 kg, 74cm) admitted with a diagnosis of idiopathic dilated cardiomyopathy. The patient was treated with Milrinone, Dobutamine, Dopamine and low dose Epinephrine. Cardiac Output (CO) measured by echocardiography was (1.5L/m), CO measured by Uscom was (1.48/1.49/1.45Lm). CO was followed by USCOM and in spite of therapy deteriorated.

The patient was then brought to surgery and a Berlin Heart (BiVAD) was inserted. After two weeks the patient was successfully weaned off the device and the device was removed.

Post operative progress was measured by echocardiography (2.6L/m) and USCOM (2.68/2.56L/m) initially. Further measurements were followed by USCOM. The patient did well and was discharged.

We have found the USCOM device to be a convenient, reliable and accurate method to assess hemodynamics (CO/SV/HR/SVR) in these pediatric patients. The device is easy to use, as evidenced by TL's parents, who were taught to determine CO when the baby was fussy, due to 'white coat syndrome'. We feel the USCOM device offers a new dimension to pediatric ICU care by making available non-invasive 'on-demand', hemodynamic evaluation.