

COMPARISON OF ANKLE BP WITH BRACHIAL BP MEASUREMENT IN DIALYSIS PATIENTS BY AUTOMATIC OSCILLOTOMETRY

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Oscillotometry using Dinamap for the measurement of blood pressure became more common in medical practice. Brachial pressure measurement is easier with the Dinamap. The standard ankle BP measurement includes application of cuff on the ankle and use of an additional Doppler transducer to measure the dorsalis pedis (DP) artery on the foot.

In most dialysis unit manual BP measurement is now replaced by automatic oscillotometry method build in Hemodialysis machines. This provides excellent care, avoid human errors and allow the dialysis technicians some free time to do other important jobs. In some cases due to graft in the upper arm, ankle BP measurement is needed. We have decided to study the correlation of brachial artery pressure with ankle BP with HD machines. In one hemodialysis unit 103 patient's were studied. BP was taken at both ankle and brachial artery with oscillotometry cuff of the hemodialysis machines within 5 minutes. The Cuff was applied at the ankle and measurement were noted at the machines without use any Doppler at dorsalis pedis artery.

Among the 103 patients 52 (50.4 %) had an average of (mean \pm SE) 33.1 ± 20.2 mm/hg increased in ankle BP than brachial BP. Brachial BP had an average (mean \pm SE) 33.9 ± 24.8 mm/hg higher than ankle BP in 31 of 103 (30.09%) patients. The remaining 20 patients out of 103 (19.4%) brachial BP correlated with ankle BP within 10 mm of hg range. Nine patients had symptomatic peripheral vascular disease. Five out of nine patient's ankle BP were higher and 4 out of 9 patients ankle BP were lower than brachial BP.

The ankle BP measurement with build in dinamap in dialysis machines do not correlate with brachial BP. The ankle cuff may not be able to adequately detect the pulse of posterior tibialis artery which is hidden behind the malleolus. This significant difference may adversely affect the patient care