

Sub-study of inter-arm blood pressure difference (IABP) by Pierre Larochelle, Suzy Lavoie, Jeffrey Perry and Marcel Emond

Secondary Aim:

A secondary aim of the prospective Canadian TIA Score Study was to document the inter-arm blood pressure difference (IABP) in a sample of patients presenting to the emergency department (ED) for a potential TIA.

Hypothesis:

A detailed measurement of the IABP during the initial TIA presentation in the ED could improve prognosis accuracy and be a novel predicting factors of subsequent cerebrovascular event.

Pilot Study:

The IABP was measured in a convenience sample of patients presenting to the ED for a TIA in one Canadian university-affiliated ED. The IABP measurement method consists of measuring the blood pressure (BP) in both arms simultaneously using two sphygmomanometers after a 5-minute lying down period. The measure was repeated three times consecutively, switching cuffs between arms at each sequence. Only the last two measurements were used for the IABP calculation. The arm with the highest BP was identified and compared with the side selected for the initial BP measurement at triage.

Results:

31 patients were recruited from June to September 2017, 28 had their initial BP recorded at triage where 20 had the side of the arm selected for BP measurement identified. The mean BP at triage was 154 mmHg against 142 mmHg for the highest BP measured in the IABP measurement phase. 15% of patients had an IABP greater than 10 mmHg. The mismatch rate between the side selected at triage to measure BP and the side identified with the highest BP in the IABP was 45%.

Conclusions:

The IABP is a prevalent phenomenon that could be useful in the ED and could lead to potential identification of patients at-risk of TIA. Further studies on the prognosis accuracy of the IABP are needed.