

Abstract**Relationship between body mass index and hypertension**Aluvihare S^{1*}¹Ministry of Health Sri Lanka**Abstract****Background**

Obesity is associated with high cardiac risk in patients, who are undergoing non cardiac surgeries. Aim of the study is to evaluate any association between Body Mass Index (BMI) and blood pressure during preoperative assessment of patients.

Methods

BMI (Kg/m²) and BP measurement were performed in 195 subjects (age 11 - 84 years). Diagnosed patients with hypertension were excluded from the study. One weighing scale was used to measure the body weights and each individual height was measured using a standardized vertical scale. According to BMI, patients were classified in to underweight (<18.5kg/m²), normal range (18.5-24.99kg/m²), pre-obese (25.00-29.99kg/m²) and obese (≥30kg/m²) categories. BP of patients was measured in a seated position after resting for 10 min. Measurement was taken on the left arm (lower margin of the cuff applied 5cm above the medial epicondyle of humerus) by auscultatory method using a mercury sphygmomanometer. Systolic pressure ≥140mmHg and diastolic pressure ≥90mmHg was considered as hypertension.


Results

During observation, 48 (24.61%) patients were categorized in to underweight group, 84 (43.08%) patients with normal range BMI, 51 (26.15%) were pre-obese and 12 (6.15%) in the obese group. None of the patients in the underweight group had high BP. High BP was recorded in 12 (14.28%) in the normal weight group and 19 (37.25%) of the pre-obese group. Five patients (41.6%) in the obese group had high BP (1 patient with class III obesity).

Conclusions

There is a significant positive relationship between BMI and BP with high prevalence of undiagnosed hypertension among obese population.

Key words: Medial Epicondyle; Sphygmomanometer; Pre-Obesity**Copyright:**© 2015 Aluvihare S *et al*. This is an open access article distributed under the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.* **Correspondence** : sahanaluvihare123@gmail.com**Cite this abstract as:** Aluvihare S, Relationship between body mass index and hypertension. *Anuradhapura Medical Journal* 2015;9 (2Supp):S32.**DOI:**<http://dx.doi.org/10.4038/amj.v9i2Supp.7581>

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