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Vasorelaxation effect of *Syzygium polyanthum* (wight) walp. Leaves extract on isolated thoracic aorta rings of normal and hypertensive rats

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Introduction: *Syzygium polyanthum* (Wight) Walp. leaves are traditionally consumed by the Malays as an alternative treatment for hypertension. Until now, effect of *S. polyanthum* leaves extract on blood vessel is not yet disclosed. **Methods**: This study investigated the effect of *S. polyanthum* leaves aqueous extract (AESP) (0.01, 0.1, 1 & 10 mg/ml) on isolated thoracic aorta rings of normotensive Wistar-Kyoto rats (WKY) and Spontaneously Hypertensive rats (SHR). Both rings were pre-contracted using phenylephrine (1 µM). Distilled water that dissolved AESP served as negative control. **Results**: As compared to negative control, AESP at 0.1, 1, and 10 mg/ml significantly relaxed aorta rings of WKY by 39.81 ± 2.99 % (*P<0.001*), 59.55 ± 7.60 % (*P<0.001*), and 72.58 ± 5.57 % (*P<0.001*), respectively. In SHR, AESP at 1 and 10 mg/ml significantly relaxed the aorta rings of SHR by 40.53 ± 3.66 % (*P<0.001*) and 65.73 ± 8.24 % (*P<0.001*), respectively. There was a significant difference between AESP-induced vasorelaxation in WKY and in SHR at a concentration of 0.1 mg/ml (*P<0.001*). The IC_{50} value for AESP-induced vasorelaxation on aorta rings of WKY (94.67 ± 1.41 µg/ml) was lower than of SHR (799.80 ± 1.69 µg/ml). **Conclusions**: The *S. polyanthum* leaves extract was able to cause significant relaxation on aorta rings of both normal and hypertensive rats. Thus, this finding is well-corroborated with the use of this plant as a traditional remedy for hypertension. It is suggested that an in-depth investigation of the mechanism of vasorelaxation of this plant is carried-out in the future.

KEYWORDS: hypertension, thoracic aorta, spontaneously hypertensive rats, vasorelaxation, traditional medicine