

Determination of the hypotensive effect of aqueous extracts from *Anacardium occidentale* Linn. (Anacardiaceae)

Authors:

Ouga Stanislas ZAHOU¹,
Koffi Mathias YAO²,
Tianga yaya SORO¹,
BI Semi Antheleme NENE¹
and Flavien TRAORE¹

Institution:

1. Laboratoire de Physiologie Animale, U.F.R Biosciences, Université Félix Houphouët-Boigny, 22 B.P. 582 Abidjan 22, Côte d'Ivoire.

2. Laboratoire de Neurosciences, U.F.R Biosciences, Université Félix Houphouët-Boigny, 22 B.P. 582 Abidjan 22, Côte d'Ivoire.

Corresponding author:

Ouga Stanislas ZAHOU¹

ABSTRACT:

The phytochemical analysis of the aqueous extract of *Anacardium occidentale* (Family: Anacardiaceae) (ANO) revealed the presence of sterols, polyterpenes, polyphenols, saponins, flavonoids, catechin, gallic tannins, quinones and alkaloids. The presence of all these phyto-chemicals could be responsible for the different therapeutic properties attributed to this herb. At doses between 3.7×10^{-3} and 6.2×10^{-2} g / kg bw, this aqueous extract induces sustained hypotension (dose-dependent) similar to that induced by acetylcholine (Ach) at 5.6×10^{-7} g / kg bw and 5.5×10^{-4} g / kg bw. It strongly reduced the pressure induced by adrenaline (Adr) at 2.5×10^{-5} g / kg bw. These results indicated that the aqueous extract of *Anacardium occidentale* is hypotensive. The traditional use of this plant to treat high blood pressure was justified. The study of interaction between ANO and atropine (a competitive antagonist of muscarinic cholinergic receptor) showed that this reference molecule does not inhibit the hypotensive effects of this extract. Furthermore, inhibition and hypotensive properties of the extract of *Anacardium occidentale* by chlorpromazine an antipsychotic drug, suggested a central ANO action similar to that of clonidine and alpha-métyldopa. Thus, the aqueous extract of *Anacardium occidentale* contained non-cholinomimetics and hypotensive substances that may have central effects.

Keywords:

Anacardium occidentale, cholinomimetic substances, chlorpromazine, hypotensive effect