 

**Title:** EXPERIMENTAL EVALUATION OF THE EFFECT OF PYCNOGENOL AND ITs FRACTIONS ON ENDOTHELIAL DYSFUNCTION IN DIABETIC RATS

**Scientific Track:** Pharmacological Advances

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**Abstract text:** The present study evaluates antihyperglycaemic activity of fractionated Pycnogenol and its ability to improve endothelial dysfunction in diabetic animals. The aim of this study was to isolate from Pycnogenol mixture its active compounds and compare their efficacy on observed parameters. Pycnogenol mixture was fractioned by re-extracting with petroleum ether, chloroform, ethyl acetate and butanol, subsequently. Pycnogenol mixture and fractions (butanolic, water, ethyl acetate) were administered from 6 weeks to diabetic rats. Blood glucose levels were assessed from the arterio-venous blood at the beginning of the experiment and at the end of the experiment. Endothelial dysfunction was evaluated as the contractile responses to phenylephrine and acetylcholine. The amount of collagen I and III was assessed from thoracic aorta after picrosirius red staining. For the confirmation of the changes on molecular level, we determined the endothelial NO-synthase and heat shock protein 90 expression from left ventricle.

Overall, the result suggest that fractions are not so effective on observed parameters as Pycnogenol mixture itself, indicating synergistic effect of the plant constituents.

**Short Biography:**

Graduated from the Pharmaceutical Faculty (FaF-UK) -***Comenius University*** in ***Bratislava (Slovak-Rep. Ex-Czechoslovakia)*** as PharmD. Clinical Pharmacist –Jun 1994; I continued my Post graduate study in the ***Medical Faculty*** of the same University in the Institute of Pharmacology & Clinical pharmacology where I got my PhD in Pharmacology (26th of June 1998)

I’m teaching Pharmacology ***& Toxicology*** and other ***Pharmaceutical science’s subjects as Pharmacokinetics*** (Both in French and English) at the Medical and Pharmaceutical faculty of University of Abomey Calavi (UAC) in Cotonou (Gouvernement University). Despite of my teaching experiences, I occupied different high positions at the Ministry of Health of Benin Rep. (General Secretary & Deputy head of cabinet of the Minister of Health) and in Academics: Dean (for 05years) of Medical & pharmaceutical faculty (HNAUB) ; Vice Chancellor of RIUB/ UOA –Georgia (USA)

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“Dr. Scientist is currently working as Lecturer & researcher at the ***University of Abomey Calavi*** (**UAC**).

-Dr Scientist received his Doctoral degree or PhD on June 28th 1998 from ***Comenius University*** Bratislava-SLOVAKIA.

-Dr Scientist completed his Masters June 1994 from the same University. He then worked at the Institute of Pharmacology & Clinical Pharmacology, served as Associate Professor and Professor at the University in **BENIN -Republic**.

-Dr. Scientist has authored several publications in various journals and books. His publications reflect his research interests in *Pharmacological advances*.

-Dr. Scientist is also an Associate Editor of the Journal ***IJBR&R***. (International Journal of Biochemistry Research & Review)

-Dr. Scientist is serving as a member or fellow in Association of WASOP *(West African Society of Pharmacology*). He is currently in charge of ongoing scholarly project.

-Dr. Scientist is awarded or honored by ***IJBRR***.

**Research Interest:**

Since Pycnogenol exhibited adjuvant effect in combined therapy in several studies in different diagnosis [13; 14; 15], we focused in this study on fractionating his mixture, because there are just a few studies in which Pycnogenol fractions were used. We were interested whether Pycnogenol fractions are more effective than whole mixture or not. We evaluated antihyperglycaemic activity and the impact of administration of Pycnogenol fractions on endothelial dysfunction, changes of collagen level and expression of proteins in diabetic animals.

**Keywords:** *diabetes – Pycnogenol mixture – fractions – oxidative stress – endothelial dysfonction-eNOS- Hsp90 - Collagen*

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