

# No Problem in Hypertensive Patients? A Re-evaluation of the Literature Data on *Eleutherococcus senticosus*, radix

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## Abstract

**Introduction:** *Eleutherococcus senticosus*, radix is indicated for symptoms of asthenia such as fatigue and weakness, which are rather common especially in elderly patients. However, most reviews and monographs including the HPMC monograph (1) state its contraindication in arterial hypertension, thereby excluding many, especially elderly patients from therapy with *Eleutherococcus*.

**Aim:** To evaluate whether the gain of safety created by the contraindication would outweigh the exclusion of a large proportion of patients potentially benefitting from the use of *Eleutherococcus*.

**Method:** A systematic database search was conducted in Embase and Medline, key words were (*Eleutherococcus*) or (*Acanthopanax*) or (*Eleutherococci*) or (*Siberian ginseng*).

**Results:** A large number of clinical and preclinical studies, reviews and monographs was identified and evaluated systematically. All sources mentioning hypertension directly or indirectly referred to only two Russian publications, which were misquoted in a review from 1985 (2). In one study, 55 patients with rheumatic heart disease were treated with *Eleutherococcus*, two showed an increase in blood pressure. However, considering the heart disease, this is not necessarily a drug-related adverse effect. In the second study, the use of *Eleutherococcus* for patients with blood pressure values below 180/90 mm Hg even was recommended.

**Conclusion:** For *Eleutherococcus*, the contraindication «arterial hypertension» is not evidence-based. This finding should be addressed in the various monographs.

## Introduction

The „Community Herbal Monograph on *Eleutherococcus senticosus* (Rupr. et Maxim.) Maxim. Radix“ (EMA/HMPC/244569/2006) (Fig. 1) states the contraindication “arterial hypertension”. This is also found in databases, reviews and monographs (3-10). Herbal medicinal products containing *Eleutherococcus* are indicated “for symptoms of asthenia such as fatigue and weakness”. This indication is especially common in patients > 65 years (prevalence of arterial hypertension in this age group being 56-59 % (11)). Thus the proportion of patients excluded from the use of *Eleutherococcus* is rather high.

We therefore traced the available evidence supporting this contraindication by retrieval of the literature and by analysis of the original publications.

## Methods

A systematic database search was conducted in Embase and Medline. Key words were ((*Eleutherococcus*) or (*Acanthopanax*) or (*Eleutherococci*) or (*Siberian ginseng*)). Results were narrowed down by hand-search. All original publications were searched for mentioning of hypertension and secondary citations. Statements cited from other sources were compared with the original data from the cited publication.

## Results

All references relating to the contraindication “hypertension” in reviews and monographs could be traced back to the review of Farnsworth et al. (1985) (2), which contains an English compilation of the Russian original research on *Eleutherococcus* (3,4). The comparison of the statements of later publications with this review and the original sources allows the conclusion that most references indirectly cite from the mentioned review, but not from the Russian sources. The review cites studies in altogether 2100 healthy subjects and 2200 patients suffering from various diseases, including hypertension. In all studies an improvement of hypertensive states was reported. This is in accordance with the results of a more recent double blind clinical trial, in which hypertension was defined as an indication (12).

The main items of the two original Russian publications are:

1. Mikunis et al. (1966) published a trial on 55 patients with rheumatic heart disease treated with *Eleutherococcus*. They report an increase in blood pressure in two patients (3). A spontaneous incidence of hypertension in patients with rheumatic heart disease is well known, thus *Eleutherococcus* cannot be convincingly considered to be causal.
2. The study by Mikunis et al. (1966) is frequently cited as the source of a threshold of 180/90 mm Hg for safe use. However, this value is only mentioned in the trial of Dalinger (1966b), who did not describe any adverse effects of *Eleutherococcus*. The drug was even recommended for blood pressure values below 180/90 mm Hg, since an average reduction of systolic blood pressure of 12.4 mm Hg was observed (4).

This recommendation however was mistranslated. The summary of Dalinger’s study in Biological Abstracts (BA 1966: 106799), states (verbatim): “*The extract is not recommended for administration in persons whose blood pressure is 180/90 mm Hg or higher*”. However, the Russian original does, not say “*not recommended*”. It says “*нецелесообразно*”, which translates to “*not useful*”. The statement referring to “*clinical usefulness*” has been falsified into a statement referring to “*safety*”.

Three further publications are frequently mentioned as sources of adverse effect reports in the same context. However

- Golikov (1966) does not mention hypertension as an adverse reaction, but only “*insomnia, shifts in heart rhythm, and tachycardia*” (13).
- Koshkareva et al (1966) present case reports, but do not mention hypertension as an adverse reaction (14).
- Lapchik (1967) published data on the germination characteristics of radish seeds under the effect of *Eleutherococcus* extract (15).



Fig. 1:  
*Eleutherococcus senticosus*  
(Rupr. et Maxim.) Maxim

## Discussion and Conclusions

The original Russian publications on *Eleutherococcus* mention hypertension as an adverse event in two patients out of a total of 4,300 (3,4). Both patients had rheumatic heart disease in which hypertension is part of the symptom complex.

Furthermore hypertension is not mentioned as an adverse effect of *Eleutherococcus* in an analysis of pharmacovigilance databases from 2009 (15). In a risk-related publication it was speculated that *Eleutherococcus* “*is consistently associated with increasing blood pressure*” (16) without providing reproducible or verifiable sources.

**We therefore conclude from our analysis, that according to the published knowledge and the available pharmacovigilance information the contraindication “arterial hypertension” for *Eleutherococcus* is not evidence-based. There is no scientific base for the exclusion of hypertensive patients from the potential benefits of *Eleutherococcus*.**

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