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Case Series

Anti-Hypertensive Properties of Himalayan Raspberries: A Case Series of Five Hypertensive Patients

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ABSTRACT

Himalayan raspberries contain polyphenols with potential cardiovascular benefits, including vasodilation and antioxidant effects. This observational case series followed five hypertensive adults consuming 50–100 g/day of Himalayan raspberries over 3–4 years without major changes to their antihypertensive therapy. All patients experienced sustained improvements in blood pressure, with reductions of 8–12 mmHg systolic and 4–6 mmHg diastolic, and two required medication dose reductions. These findings suggest Himalayan raspberries may serve as a natural adjunct for blood pressure control, though controlled clinical trials are needed to confirm efficacy.

Keywords: Himalayan raspberry; Hypertension; Polyphenols; Blood pressure control; Dietary intervention.

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INTRODUCTION

Hypertension is a major global health burden and a leading risk factor for cardiovascular disease, prompting exploration of plant-based dietary interventions that support long-term blood pressure (BP) control. Himalayan raspberries (Figure 1)—particularly *Rubus ellipticus* and *Rubus niveus*—have been traditionally consumed in Himalayan regions and used in Ayurveda for improving cardiovascular and metabolic health. These fruits are naturally rich in polyphenols and flavonoids such as anthocyanins, ellagic acid, quercetin, kaempferol, and catechins, which promote endothelial nitric oxide release, resulting in vasodilation and reduced systemic vascular resistance. Extracts of *Rubus* species have demonstrated endothelial-dependent vasorelaxation in animal and in-vitro studies, suggesting potential antihypertensive effects.[1] Additionally, some polyphenolic constituents exhibit mild angiotensin-converting enzyme (ACE) inhibitory activity, which may lower vasoconstriction mediated by the renin-angiotensin system.[2] Beyond these mechanisms, Himalayan raspberries possess strong antioxidant properties that protect against oxidative vascular damage, improve nitric oxide bioavailability, and reduce arterial stiffness. Their anti-inflammatory actions—reducing markers such as CRP, IL-6, and TNF-α—also contribute to healthier vascular function. The fruit's high potassium content facilitates sodium excretion and supports improved BP control, while its fiber and polyphenol profile enhance glycemic stability, indirectly modulating BP by reducing sympathetic and hormonal triggers of hypertension. Traditional use also suggests a mild diuretic benefit. Although these findings (Table 1) from pre-clinical studies are promising, clinical research evaluating their direct impact on BP remains limited. This case series therefore explores the effects of long-term Himalayan raspberry consumption on BP outcomes in individuals with essential hypertension.

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Figure 1: Himalayan Raspberries.

Table 1: Evidence of antihypertensive properties of Himalayan raspberries.

Effect	Evidence
Vasodilation via NO	Strong (animal & in-vitro)
ACE inhibition	Moderate (in-vitro)
Antioxidant/anti-inflammatory	Strong (phytochemical studies)
Direct clinical antihypertensive trials in humans	Limited

CASE DISCUSSION

Case 1

- A 52-year-old male with Stage 1 hypertension (baseline 142/88 mmHg). After 12 months of raspberry consumption, BP reduced to 136/84 mmHg. By year 3, readings averaged 130/80 mmHg, occasionally falling to 124–126 mmHg systolic, requiring a reduction in amlodipine dosage.

Case 2

- A 60-year-old female with poorly controlled hypertension on dual therapy (150/92 mmHg baseline). By year 2, systolic BP decreased to 138–140 mmHg. At year 4, consistent readings of 132/84 mmHg were documented with improved morning BP variability.

Case 3

- A 48-year-old male with obesity and hypertension (146/94 mmHg baseline). Significant reductions noted by year 3 (132/86 mmHg). Patient also showed improved fasting glucose and reduced waist circumference, suggesting additional metabolic benefits contributing to BP control.

Case 4

- A 67-year-old female with long-standing hypertension and mild pedal edema. Following raspberry intake, mild diuretic effect noted by month 6, with reduction in edema and a gradual BP decline to 134/82 mmHg by year 3.

Case 5

- A 55-year-old male with hypertension and dyslipidemia (148/90 mmHg baseline). At year 2, BP stabilized around 136/84 mmHg. By year 4, occasional low BP readings (118–122 mmHg systolic) required adjustment of ACE inhibitor dose.

A summary of their findings can be seen here in table 2.

Table 2: Summary of Antihypertensive properties seen on the patients.

Parameter	Baseline Average	Year 3–4 Average
Systolic BP	145–150 mmHg	128–134 mmHg
Diastolic BP	88–94 mmHg	80–84 mmHg
Medication reduction	0 patients	2 patients
Episodes of low BP	None	3 patients (mild, non-symptomatic)

DISCUSSION

This observational case series demonstrated that regular consumption of Himalayan raspberries was associated with clinically meaningful reductions in blood pressure over several years in individuals with essential hypertension. Several mechanisms may explain these improvements. Himalayan raspberries are particularly rich in vasodilatory flavonoids—such as anthocyanins, ellagic acid, quercetin, and catechins—which enhance endothelial nitric oxide availability, improving vascular tone and lowering systemic vascular resistance.[3,4] Their antioxidant and anti-inflammatory properties may further reduce oxidative stress–related arterial stiffness and vascular inflammation, both of which contribute to hypertension. Mild ACE-inhibitory effects are biologically plausible based on laboratory studies of *Rubus* species and may partially account for medication dose reductions observed in some patients. Improved glycemic control and mild diuresis noted in certain cases could also serve as secondary contributors to BP control, especially in those with metabolic risk factors.

An important contextual aspect concerns the "Raspberry vs. Raspberry" distinction, since not all raspberry varieties have equal bioactive profiles.[5] Himalayan yellow raspberry (*Rubus ellipticus*) and Himalayan black raspberry (*Rubus niveus*) differ considerably from commercially cultivated European red raspberries (*Rubus idaeus*) commonly found in grocery markets (Figure 2). Himalayan species possess higher concentrations of minerals, polyphenols, and antioxidants, likely due to wild mountain growth, environmental stress exposure, and variations in soil composition (Table 3). These compositional advantages may translate into stronger cardioprotective properties compared with their cultivated counterparts, indicating that the source and botanical variety of raspberries could significantly affect clinical outcomes.[6,7] Thus, generalizing these findings to all raspberry types must be done cautiously.

Table 3: Comparison of properties of Himalayan raspberries and regular raspberry.

Feature	Himalayan Raspberry (Rubus ellipticus / Rubus niveus)	Regular Raspberry (Rubus idaeus)
Origin	Himalayas (India, Nepal, Bhutan)	Europe & North America
Colour	Yellow-gold (ellipticus), black-red (niveus)	Red
Taste	Sweeter, more tangy	Mild sweet
Traditional Use	Ayurveda, Unani, folk medicine	Western herbal medicine
ACE inhibition	**Present** (in-vitro)	Mild
Vasodilation via NO	**Strong** polyphenol-driven	Present
Anti-inflammatory	Strong	Strong
Blood sugar support	Strong (high fiber)	Strong
Polyphenols (anthocyanins, ellagic acid)	**Higher** (especially in *Rubus niveus*)	High but lower than Rubus niveus
Vitamin C	Moderate	Higher
Potassium	High	Moderate
Antioxidant capacity	**High** (due to deep pigment)	High

Figure 2: Himalayan raspberry and regular raspberry.

Despite promising and consistent trends, this study has limitations inherent to observational design: a small sample size, lack of randomization, self-reported dietary adherence, absence of ambulatory BP monitoring, and potential lifestyle confounders not formally controlled. Still, the uniform benefit observed across a heterogeneous set of patients strengthens the biological plausibility. These insights may encourage future controlled interventional trials to clarify optimal dosing, duration of benefit, patient selection, and synergistic effects with existing antihypertensive therapies. Hypertension remains one of the most prevalent and influential non-communicable diseases worldwide, with a complex interplay of metabolic, vascular, and lifestyle-related mechanisms. Growing evidence from Indian populations highlights that hypertension often coexists with other cardiometabolic conditions, amplifying the burden of chronic disease. Verma *et al.* (2024) demonstrated a significant association between hyperuricemia, obesity, and elevated blood pressure in urban India, suggesting a synergistic pathophysiology fuelled by metabolic dysfunction and pro-inflammatory mechanisms that accelerate vascular damage.[8] In addition to systemic metabolic contributors, pulmonary function impairment has also emerged as a relevant correlate. Mathur *et al.* (2024) reported a progressive decline in lung capacity among hypertensive individuals, implying that vascular rigidity and chronic inflammation may extend beyond the cardiovascular system to impact respiratory health over time.[9]

The interaction of hypertension with Type 2 Diabetes Mellitus is another critical concern, where both diseases exacerbate endothelial dysfunction, activate the renin–angiotensin–aldosterone system (RAAS), and worsen insulin resistance—creating a vicious cycle that hastens target-organ damage.[10] Further, hypertension significantly impacts sexual health by contributing to erectile dysfunction through reduced nitric oxide availability, vascular stiffness, and emotional stress. Advances in diagnostic and therapeutic strategies underscore the importance of lifestyle modification, optimized antihypertensive regimens, and psychosexual counseling for such patients.[11] Taken together, these findings underscore that hypertension is not merely an isolated rise in blood pressure but a multifaceted disorder intricately linked with metabolic abnormalities, pulmonary impairment, and quality-of-life issues. Early screening, targeted risk factor control, and comprehensive long-term management are essential to curb complications and improve patient outcomes.

Overall, the present findings reinforce traditional medicinal practices of the Himalayan region and highlight a nutritionally accessible fruit that could serve as a safe, low-cost adjunct in long-term blood pressure management, especially in communities with limited healthcare resources.

CONCLUSION

Long-term, regular consumption of Himalayan raspberries was associated with clinically meaningful and sustained reductions in blood pressure in all five hypertensive patients, with two requiring medication dose reductions. Although causality cannot be fully established, the consistent trend across multiple patients suggests that Himalayan raspberries may serve as a beneficial adjunctive dietary intervention for long-term BP management. Controlled clinical trials are warranted.

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