

**HOLISTIC AYURVEDIC APPROACH TO HYPERTENSION  
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**ABSTRACT**

The ancient Indian medical system known as *Ayurveda* has drawn more and more interest due to its potential for treating chronic illnesses. Herbal medicines, dietary changes, and holistic methods are prioritized in traditional Ayurvedic procedures to treat the underlying causes of illnesses. At present, hypertension is the most prevalent lifestyle-related illness. Uncontrolled high blood pressure is the most significant risk factor that can be changed to reduce the risk of all types of illnesses and deaths. Worldwide, high blood pressure is a major factor in early death and can result in severe health issues like CAD, CHF, peripheral artery disease, stroke, renal failure, and mortality. High blood pressure, also known as hypertension, is a long-term medical condition that can often have no symptoms, where the pressure of blood against the walls of the arteries is higher than normal. Less than half of people with high BP are aware of their condition,

and many are unfamiliar with the current treatment options that are successful in controlling HTN when used over a long period. Their unwanted complications can be fatal. Modern medications for high blood pressure have many side effects and are often not well-received, which can result in patients not following through with their treatment, changing medications, or stopping treatment altogether. HTN is not directly described in *Ayurveda*, but can be correlated with *Raktagata Vata* and is considered a *Tridoshaja Vyadhi* based on similarities in its pathogenesis and clinical presentation. Ayurvedic treatment for hypertension focuses on balancing all three doshas with the help of Ayurvedic panchakarma

therapies and a wide range of miraculous drugs like *Brahmi*, *Pushkarmoola*, *Jyotishamati*, *Sarpagandha*, *Saunf*, *Jatamansi*, etc, which are safe and also cost-effective.

**KEYWORDS:** High Blood Pressure, CAD, CHF, *Raktagata Vata*, *Brahmi*, *Jatamansi*, Hypertension.

## INTRODUCTION

*Ayurveda*, the traditional Indian medical system, offers a comprehensive strategy for treating a variety of illnesses, including hypertension. High blood pressure Term for elevated blood pressure One characteristic that sets hypertension apart is elevated arterial pressure. Stage 1 HTN is defined as a diastolic pressure of 80–89 mm Hg and a systolic pressure of 130–139 mm Hg, according to the American Association of Hearts. Stage 2 is defined as a diastolic pressure of 90 mm Hg or higher and a systolic pressure of 140 mm Hg or higher. when the blood pressure is higher than 180 mm Hg in the systolic and 120 mm Hg in the diastolic phases, respectively it is referred to as stage 3 (hypertensive crisis).<sup>[1]</sup> Hypertension is frequently called a "silent killer" because, if left untreated, it can significantly increase the risk of life-threatening conditions including heart disease, stroke, and renal problems, even though it may not exhibit symptoms at first. Who estimates that 220 million people suffer hypertension and that just 12% of individuals have their blood pressure under control. One major global public health concern is hypertension. Globally, 26.4% of individuals in 2000 had hypertension; by 2025, 29.2% were predicted to have the condition. In *Ayurveda*, we can co-relate hypertension with *Vata Pradhan Tridosaja Vyadhi*. By viewing the signs and symptoms, it can be said that it is a *Vata Pradhan* disease in association with *Pitta* and *Kapha*. Even though there are several effective antihypertensive medications on the market today, none of them are without side effects. Heart failure, bradycardia, exhaustion, and chilly extremities are common side effects of beta-blockers. Likewise, angiotensin-converting enzyme inhibitors have been linked to rash, cough, etc. However, *Ayurvedic* treatment can reduce the risk more effectively. According to *Ayurvedic* principles, a doctor should first try to determine the *Dosha*, the location of the manifestation, and the etiological variables to determine the nature of the illness before starting therapy. Hence, to properly comprehend the condition and its prevention, management, and therapy, it becomes important to analyze the several factors—*Dosha Vridhi*, *Dhatu Dushti*, and *Stratos*—and their roles in the cause of hypertension.

## AIMS AND OBJECTIVES

**Aim:** explore the *Ayurvedic* perspective of hypertension

**Objective:** Explore the antihypertensive effect of *Ayurvedic* herbs & medicine on the management of hypertension.

## MATERIALS AND METHODS

To examine the Ayurvedic viewpoint on hypertension and the medications used to control blood pressure as indicated in various ancient texts, contemporary research papers including updates on recent clinical studies, etc., were studied and evaluated.

### Hypertension

A large percentage of people worldwide are afflicted by hypertension, which is becoming increasingly common in both developed and developing nations. Many people with hypertension go undetected and suffer from high blood pressure for a long time before it is discovered. Several variables, such as age, obesity, a sedentary lifestyle, an unhealthy diet, excessive alcohol intake, and genetic susceptibility, can lead to the development of hypertension.

### Types of HTN

#### primary Hypertension

About 95% of instances of hypertension are primary, or essential, hypertension, making it the most prevalent kind of the condition. This kind of hypertension is thought to be the outcome of a confluence of environmental and hereditary variables, but there is no known underlying cause. It is well established that a sedentary lifestyle, an unhealthy diet, and obesity all have a role in the development of primary hypertension.

#### Secondary Hypertension

In contrast, only 5% of the population with hypertension has secondary hypertension. An underlying medical issue, such as renal disease, hormone abnormalities, or certain drugs, is the cause of this kind of hypertension. Renal problems and certain medicines are among the major causes of secondary hypertension.

### Complications and Impact

Uncontrolled hypertension can result in several serious consequences, including peripheral vascular disease, ischemic heart disease, cerebrovascular stroke, cardiac failure,

hypertensive nephropathy, and hypertensive retinopathy. These issues have the potential to drastically lower a person's quality of life and increase the worldwide illness burden.

### **Title assigned to HTN in Ayurveda**

*Raktagatavata, Siragata Vata, Avritavata, Dhamani prapurana, Rakta vikshepa, Vyana prakopa, Raktamada, Raktavridddhi, Uchharaktachapa, and Raktabhaar* are just a few of the names for hypertension that various *Ayurvedic* academics have come up with. Essentially, it's *Vatapradhana Tridoshaja Vyadhi*, with *Rasa-Raktadhatu* at its core. *Acharya Charaka* describes that *Rasa Dhatu's "Vikshepana"* (circulation) is the outcome of *Vyan Vayu* and *Hridaya's karma*. Because *Vayu* itself produces the *Dhatu Gati (Rasa Gati)* or *Vikshepa*, we might conclude that vitiated *Vata Dosha* is the primary cause of hypertension (this perspective). With *Rasa, Rakta* (whole blood) serving as the primary mediator of vitiation, *Pitta* and *Kapha* enhance the effects of vitiated *Vata* and aid in the disease's progression.

### **Factors involved in Hypertension**

**Pran Vaayu** - Similar to the *Prakrita Prana Vayu*, the nervous system's functions have been characterized in current science. The function of *Prana Vayu*, or the "*Hridaya Dhruka*" or "*Dharana* of the Heart," is associated with the vagal inhibition of the neurological system. Blood pressure is regulated by the autonomic nervous system through the vasomotor center; similarly, *Prana Vayu* regulates blood pressure through the control of *Vyana Vayu*. Therefore, abnormalities in the heart and other arteries might result from *Prana Vayu* disease.<sup>[2]</sup>

**Vyan Vaayu** - It is said that *Vyan Vayu* is in charge of all bodily motions. The heart contracts and continually pumps blood (*Rasa Rakta Dhatu*) throughout the body with the aid of *Vyan Vayu*. Thus, it implies that *Vyana Vayu* is involved in blood pressure control.<sup>[3]</sup>

**Saman Vaayu-** "*Samana Vayu*" aids in the passage of *Rasa* into the heart, where it circulates throughout the body, according to *Sharangadhara*, following the digestive process. Consequently, *Samana Vayu* plays a crucial part in the circulation.<sup>[4]</sup>

**Apan Vaayu-** The excretion of *Purisha* and *Mutra* is hampered by the vitiation of *Apana vayu*, which affects homeostasis and may have an impact on blood pressure. It follows that *Apana Vayu* contributes to the maintenance of normal blood pressure.<sup>[5]</sup> Similar to this, waste materials such as  $\text{Na}^+$ ,  $\text{K}^+$ , urea, and uric acid are components of urine and must be

eliminated regularly. The body experiences toxic consequences when these compounds are retained, and the fluid balance is also affected.<sup>[6]</sup>

**Sadhak Pitta-** Situated in *Hridaya* responsible for *Buddhi, Medha, Utsaha, Abhiman, Shaurya, Bhaya, Krodha, Harsha, and Moha*.<sup>[7]</sup> Keeping *raja* and *tama* at bay helps *Sadhaka Pitta* liberate *mana* from such *Avarana* of *raja* and *Tama*, which interferes with *Chetana's* ability to do its regular duties. Thus, as *mana* gains efficiency, it finally aids "*Atma*" in realizing its purpose by improving *Buddhi, Medha, Abhimana*, and other virtues. Psychological disorders interfere with the heart's natural function of the *Sadhaka Pitta*, which raises blood pressure by influencing heart rate and cardiac output.

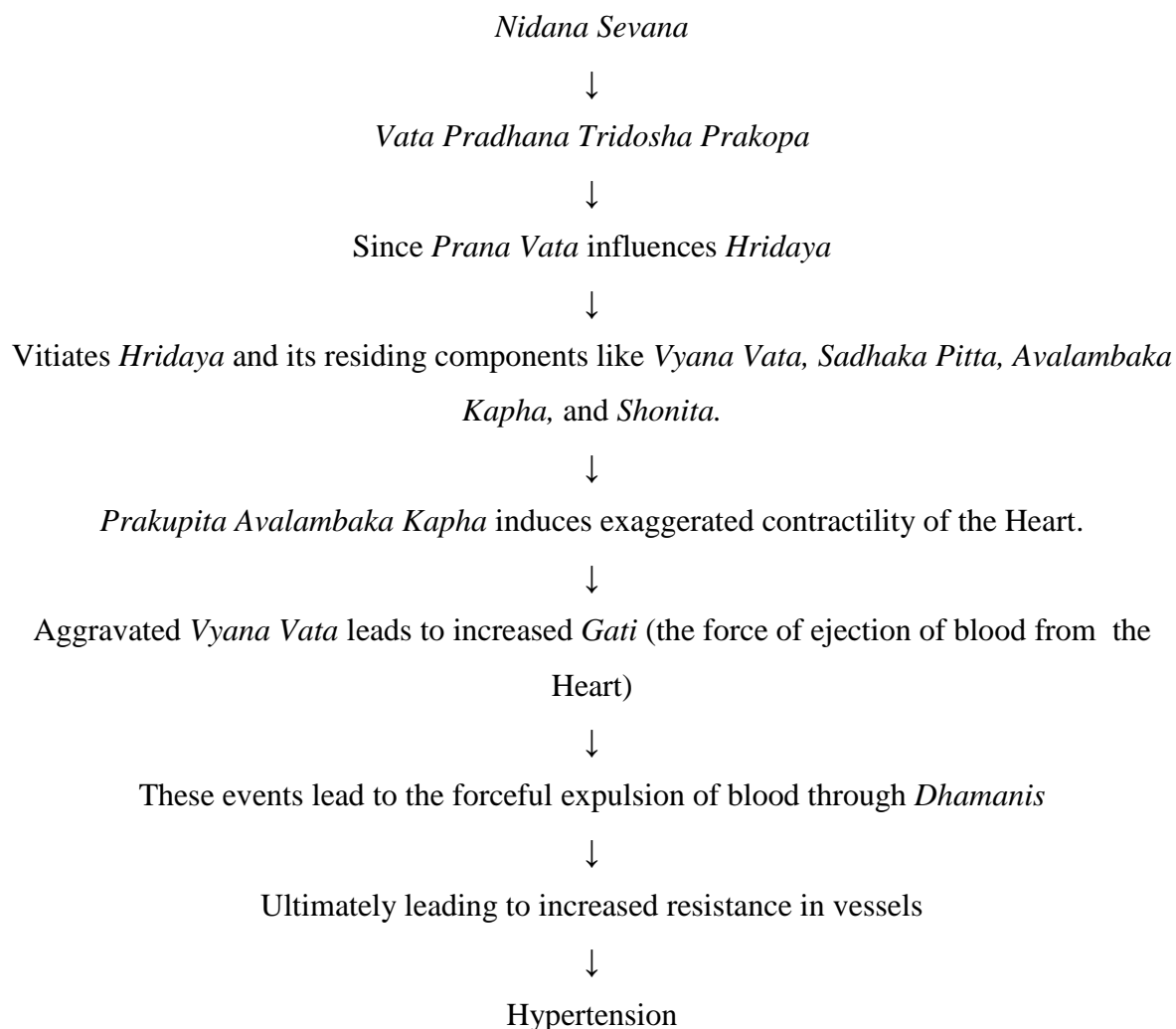
**Avalambaka Kapha** - Situated in *Uraha Pradesh* (with *Hridaya*), *Avalambaka Kapha's* contribution is to create *Hridaya's Avalambana*, combining *Ahararasa* and *rasadhātu* with its unique power.<sup>[8]</sup> There is a correlation between the *Avalambana karma* of *Hridaya* and the normal rhythmicity, conductivity, excitability, contractility, tone, and refractory time of cardiac muscles. Consequently, it maintains the heart's health and increases its ability to pump blood continuously. Thus, it may be concluded that *Avalambaka kapha* plays a part in blood pressure management.

**Agni** - Food digestion and the appropriate creation of *Dhatus* are carried out by the fire in the body known as *Jathragni*.<sup>[9]</sup> (Agni vitiation can result in several issues. At the *Jathragni* and *Dhatwagni* levels of *Agni Dushti*, there are two levels. Because of its many *Guna*, *Jathragnimandya* causes *Ama* to develop, which obstructs the channels and vitiates the *Doshas/stroto-rodha*. Due to peripheral resistance brought on by this narrowing of the blood vessel's course, hypertension results.

**Mana** - Hypertension is regarded as *mansik vyadhi* (psychosomatic). Emotional imbalance brought on by stress, wrath, or fear (*Bhaya*) may disrupt *Mansik Dosha*. In *Ayurveda Pragyaparadha* and *Asatmendriyartha Samyoga* are considered as the root causes for every disease which indicates the involvement of *manas* in HTN.<sup>[10]</sup>

**Pathogenesis** - The etiology of hypertension occurs at the mental and bodily levels either concurrently or sequentially, dependent on the *Dosha-Dushya Sammurchhana*. *Ama* is formed by *Agnidushti*, which leads to *Dhatudushti (Rasa & Rakta)*

This results in obstructive pathology in channels, or *KhaVaigunya*. The regular *Rasa-Rakta* circulation is partially blocked by the *Ama* generation, which leads to *Strotorodha* (obstruction) and vitiates *Vayu* further. Blood pressure rises as a result of the blood vessels forced blood flow caused by the obstruction of *Vyana Vayu*, which also increases resistance.



### Components of pathogenesis

**Doshas** - *Vata* (All five types; mainly *Vyana Vayu*) *Pitta* (*Sadhaka*) *Kapha* (*Avalambaka*)

**Dushya** - *Rasa, Rakta, Meda*

**Agni** - *Jatharagni, Dhatvagni*

**Ama** - *Jatharagni, Dhatwagni-MandyaJanya*

**Srotasa** - *Rasavaha, Raktavaha, Manovaha, Medovaha*

**Srotodushti** - *Ati-pravritti, Sanga Type, Siragranthi*

**Udbhava Sthana** - *Ama-pakwashaya*

*Sanchara Sthana - Rasayani (dhamanis)*

*Adhithana - Manodaihika (Psychosomatic) Hridaya, Sira, Dhamani, Srotas.*

*Rogamarga – Bahya, Madhyama (Including Tri-Maha-Marma-Hridaya, Shira, Basti)*

### **Chikitsa**

Chikitsa of any disease in *Ayurveda* is based on three basic principles

➤ *Nidana Parivarjana* 2. *Shodhana* 3. *Shamana*<sup>[11]</sup>

The *Dosha* and *Dushya* involved in pathogenesis should be taken into consideration while planning a hypertension treatment.

A significant part is played by *Manasa Bhavas* such as *Krodha*, *Bhaya*, and *Chinta* in the etiology, course, and prognosis of the illness. They also influence how the patient reacts to therapy. Therefore, a therapy that can calm these agitated *Manasika Bhavas* should be suggested.

#### **1. Nidan parivarjana**

It entails staying away from danger and causative elements. The patient should adhere to the *Pathya* and *Apathya* if they have essential hypertension.

*Pathya & Apathya Ahara Vihara* play an important role in the prevention & management of hypertension

<b><i>Pathya Ahara</i></b>	<b><i>Pathya Vihara</i></b>	<b><i>Apathya Ahara</i></b>	<b><i>Apathya Vihara</i></b>
Use of green vegetables & fruits	routine measurement of blood pressure	excessive consumption of salt (garnishing salads, curd, etc.)	
Increased usage of barley ( <i>Yava</i> ), sorghum ( <i>Jowar</i> ), wheat, horse gram, moringa ( <i>Shigru</i> ), green gram ( <i>Mudga/Moong dal</i> ), turnip ( <i>Shalgam</i> ), bottle gourd ( <i>Ghia/ Lauki</i> ), bottle gourd ( <i>karela</i> ), radish ( <i>Muli</i> ), Indian gooseberry ( <i>Amla</i> ), cucumber ( <i>Khira</i> ), black grapes ( <i>Draksha</i> ), pomegranate ( <i>Anar</i> ), apple, pineapple, etc.	Lifestyle changes include eating a balanced meal on schedule, exercising often, and taking vigorous 30-minute walks each day.	Excessive consumption of foods such as sour fruits, curd, tea, coffee, mustard oil, pickles, til <i>taila</i> , Bengal gram, and red and green chilies.	Daytime sleep ( <i>Divashyan</i> ), fatigue ( <i>Aalsya</i> ), Remaining awake during the night ( <i>Ratrijagran</i> ),
	Losing weight reasonable sleeping and	Consumption of processed/oily	



	waking hours. Regular yoga meditation practice	foods and animal fats. Smoking and alcohol use	
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## 2. *Shodhana Chikitsa*

*Sodhana chikitsa* or purification treatment, is used to treat hypertension, which is mostly brought on by abnormalities in the blood's *Vata* and *Pitta doshas*. In this therapy, *Shirodhara*, *Basti Karma* (medicated enema), and *Virechana Karma* (medicated purgation) are used. The treatment known as *virechana karma* is intended to alleviate conditions brought on by disbalances in the *Pitta dosha*, which is connected to hypertension. By encouraging the body to eliminate fluids, including extra sodium and potassium ions, this treatment aids in the removal of the vitiated doshas from the body. Also, lowering the quantities of bicarbonate in the stool aids in preserving the acid-base equilibrium.<sup>[12]</sup> Conversely, *Basti karma* activates the lower gastrointestinal tract's parasympathetic nerves. This stimulation may result in vasodilation, a drop in blood pressure, and a reduction in the renin-angiotensin-aldosterone complex. It helps to reduce blood pressure by stimulating the vasomotor center.<sup>[13]</sup>

*Shirodhara* is the practice of continuously applying warm liquid to the forehead while the patient is calm. The brain is calmed by this treatment, which encourages rest and sleep. *Shirodhara* uses a warm solution that causes vasodilation, which improves circulation all over the body, including the brain. This improves mental performance and minimizes psychological issues.<sup>[14]</sup>

## 3. *Shamana Chikitsa*

Restoring equilibrium to all *Doshas* is the aim of *Shaman* treatment. The following drugs (single or compound formulation) are often used to prevent and cure hypertension (should be used under *Ayurvedic* medical care).

- *Amalaki*, *Rudraksha*, *Haridra*, *Japapushpam*, *Jatamamsi*, *Bhringraj*, *Sadabahar*, *Sarpagandha*, *Shankhapushpi*, and *Vacha* are examples of single medications.<sup>[15]</sup>
- Compound medications include *Arjun Ksheerpaka*, *Brahma Rasayan*, *Guduchi Rasayanam*, *Madhuparnyadi Yogam*, *Medhya Rasayanam*, *Sarpagandha Ghan Vati*, *Shodashang Kashaya*, and *Vacha-Mansyadi Yoga*.



- *Raktaprasadaka* *Aaushdhi* - *Sariva* (*Hemidesmus indicus*), *Manjishta* (*Rubia Cordifolia*)
- *Mutral Dravyas* (Diuretic)- *Punarnava* (*Boerhavia diffusa*) and *Gokshura* (*Tribulus terrestris*)
- *Medhya Rasyana* - *Sarpghandha* (*Rouwolfia serpentina*), *Shankhapushpi* (*Convolvulus pluricaulis*), and *Bramhi* (*Bacopa monnieri*).
- *Kashayam* (Infusion) - *Jatamansi Hima*, *Dashmool Kwath*, *Arjun Kwath*, *Punarnava Kwath*, and *Mahamanjistha Kwatha*
- *Choorna*- *Ashawaghandha Choorna*, *Choorna of Sarpaghandha*, *Arjuna Gokshura* and *Tagar*
- *Bhasma* (*Rasa preparation*)- *Mukta Shukti*, *Jaharmohra Pisti*, and *Mukta Pisti*.
- *Vati* - *Sarpagandha Ghana Vati*, *Brahmi Vati*.

### Yoga

Stress-reduction techniques like *yoga*, meditation, and other mind-body relaxation techniques help reduce blood pressure. It has been demonstrated that practicing *Pranayama* regularly and doing the *asanas Shavasana*, *Sukhasana*, *Dhanurasana*, *Makarasana*, and *Vajrasana* properly will significantly lower blood pressure in both normal and hypertensive people.<sup>[16]</sup>

The Upanishads state that controlling *Prana* is the ultimate aim of Yogic practices and *Pranayama*. The resultant mental calm and relaxation might be used as a therapeutic strategy, notwithstanding the difficulty in reaching this aim.<sup>[17]</sup>

### DISCUSSION

The force or pressure exerted by flowing blood against the arterial wall is known as blood pressure. Individuals have different blood pressure values. A blood pressure reading of less than 120/80 mmHg is regarded as normal. Hypertension is the word used to describe increased blood pressure for whatever reason. In the modern world, hypertension is a common illness.<sup>[18]</sup>

Six out of every ten people have hypertension. Most people who experience it do so in their later years. Over half of all fatalities and disabilities are caused by heart disease and stroke, which affect around 12 million people annually. The pathophysiology of hypertension can happen sequentially or one at a time at the psychological and physiological levels,

depending on the *DoshaDushya Sammurchhana*. Vitiating of *Shonita* (blood) and *Agnidushti* is caused by excessive use of salt, alcohol, *Snigdha bhojana* (oily food), *Divaswapna* (daytime sleep), and *manovighata* (mental accident).

*Agnidushti* gives rise to *Ama*, and *Dhatudushti* (*Rasa* and *Rakta*) comes next. This gives birth to *Kha-Vaigunya*, or obstructive pathology in channels. *Ama* production results in *Strotorodha* (obstruction), which further vitiates *Vyana Vayu* and partially hinders the normal *Rasa-Rakta* circulation. Because of the forceful blood flow caused by this congested *Vyana Vayu*, there is more resistance in the blood vessels, which raises blood pressure. The treatments for *Shonitadushti* include *Nidana parivarjana*, *Shodhana* in the forms of *Virechana* (gut purification via enema), *Shirovirechana* (purification via nasal root), *Raktamokshana* (Bloodletting), *Murdhni Taila* (special technique to keep oil and massage), *Shamana* medications (different oral medications), and *Rasayana Chikitsa*.

## CONCLUSION

Despite the abundance of hypertension medications available in contemporary medicine, it has been shown that the proportion of hypertensive individuals is rapidly increasing. Today's human race is seeking *Ayurveda* for the perfect, safe treatment. Therefore, it is essential in the modern era to treat hypertension perfectly and without any negative side effects. According to *Ayurveda*, the equilibrium of *Doshas*, *Dhatus*, *Malas*, and *Agni* is considered as a healthy state of an individual. A healthy, active lifestyle following the Ayurvedic principles indicated by *Dinacharya* and *Ritucharya* is now required to protect the arteries from the harmful effects of chronic hypertension on vital organs, including the kidney, heart, and brain. In recent years, ayurvedic medicinal herbs have shown promise in lowering blood pressure and enhancing heart health. Several drugs remain unknown, although some have undergone laboratory testing. In today's world, practicing *yoga* and *Vyayama* is commonplace. Numerous medicines from *Ayurveda* can also aid in controlling the immune system, washing out oxidants, and decreasing blood pressure while simultaneously regulating the body. In addition to treating high blood pressure, these medications can protect vital organs from chronic artery pressure by preserving and renewing their cells.

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