

## A REVIEW ON ANTIDOTES W. S. R. TO CONCEPT OF PRATIVISHA IN AYURVEDA

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### ABSTRACT

Antidotes are the substances used to counteract or neutralize the effects of poison. Poisoning may be caused by plant, animal substances, agricultural poisons, poisonous metals and minerals etc. Mainly two types of poison mentioned in *Ayurveda*, *Sthavar visha* and *Jangham visha*. Both poison possessing opposite qualities, when put together they destroy each other, hence patients bitten by *Jangama Visha* should administered, *Sthavara visha* used in the form of internal and external application. *Acharya Vagbhata* explained in detail about the use of *Prativisha* in almost all types of *Visha* and indicated if the *vishavega* is in between 5<sup>th</sup> and 7<sup>th</sup> vega. *Prativisha* possess *Vyavayi Guna*, so that acts vigorously on patient and have affinity for same

system on which *visha* has affected. *Prativisha* have action opposite to that poison. Common antidote in *Ayurveda* are *Swarna*, *Ghrita*, *Godudha* and *Madhu*. So *Prativisha* or antidote play an important role in the management of poisoning, it helps to save the patient's life. In *Ayurveda* our Acharyas clearly mentioned about the different type of poisonous substances and its antidote under *Visha Chikitsa* references. The concept of *Prativisha* which is existed since ancient time needs to be supplemented, explained, refurbished and narrated for proper understanding. So, this article aims to collect the references of *Prativisha*. It would be useful

for emergency situations or day-to-day clinical practice.

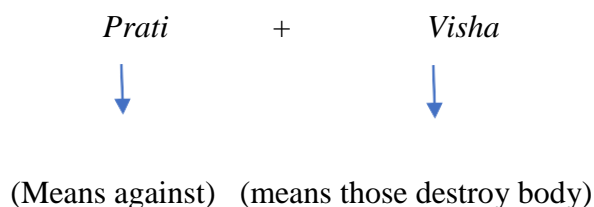
**KEYWORDS:** Antidote, *Prativisha*, *Visha*, *Sthavara visha*, *Jangama visha*, *Vishavega*

## INTRODUCTION

Poisoning is the main health issue that is growing worldwide due to the use of chemically processed, pharmaceutical products, heavy industrialization, environmental toxicity. Poisoning is leading cause of morbidity and mortality. Poison is harmful substance which produces an abnormal health effect when in contact with a living being.<sup>[1]</sup> For the treatment of poisoning general and specific treatment are mentioned.<sup>[2]</sup> Antidotes play an important role in various therapies for the treatment of specific poisonous substances. These are substances that act specifically to prevent, inhibit, inactivate, counteract, reverse the action or poisonous effects of a toxic agent mechanical, chemical, pharmacological, chelating agent, universal etc. In *Ayurveda* there is detailed explanation of the poisoning and treatment including antidotes. The substance immediately after entering the body causes vitiation of healthy dhatu's or killing of healthy person is defined as *Visha*,<sup>[3]</sup> the substance which cause sadness to the world is called as *visha*<sup>[4]</sup> *Aacharya chraka in chikitsasthana* has described about *chaturvimshati upkarmas*, *prativisha chikitsa* is one among these *chaturvimshati upakarma*<sup>[5]</sup> Detail explanation of *prativisha* is available in *Ashtanga Sanghrah*, *Basavrajeeyam*, *Anupan Manjari*, and *Sushrut Samhita* etc. *Prativisha chikitsa* is the last resort in treatment of poisons and used in extreme cases when all other treatment measures for poisoning become unsuccessful.<sup>[6]</sup>

## Defination of prativisha

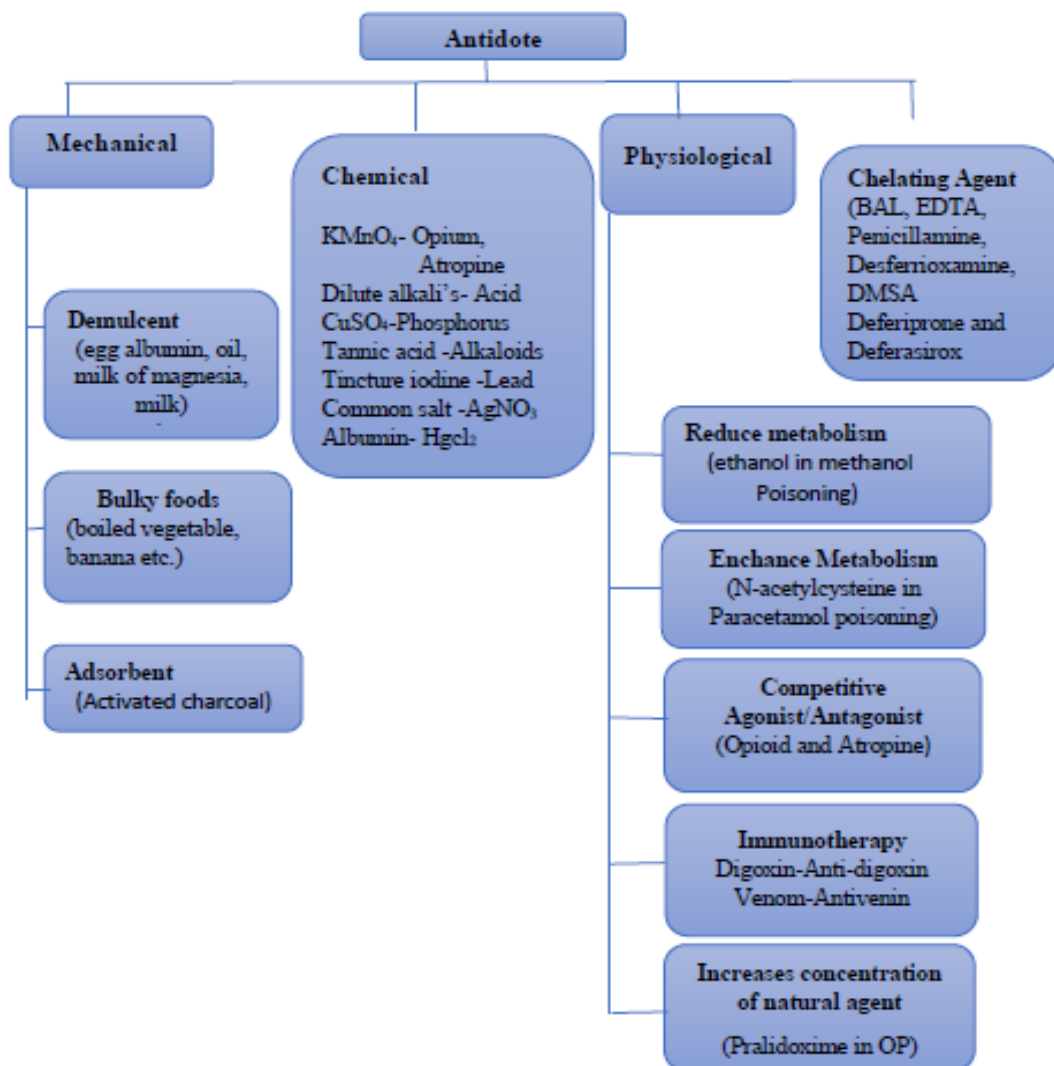
*Prativisha* means which act against *visha*. It is made up of two words.



*Prativisha* means the medicine which is used for the purpose of pacifying *Visha Utpanna Lakashana*.<sup>[7]</sup> Antidote are substance that act specifically to prevent, inhibit, inactivate, counteract, reverse or relieve the action or poisonous effect of a toxic agent.

**Need of antidote to be used<sup>[8]</sup>**

1. The poison may not have been completely removed by emesis or gastric lavage.
2. Where these procedures are contra-indicated like corrosive, strychnine, coma, volatile-poisons (Petroleum distillates) etc.
3. The poison is already absorbed.
4. The poison has been administered by route other than ingestion.

**Classification of Antidote****Universal antidote<sup>[9]</sup>**

It is an antidote that is used in those cases where the nature of the ingested poisons is unknown or where it is suspected that a combination of two or more poisons has been taken. It consists of a mixture of readily available substance, as follows.

**Table 1: Universal antidotes.**

Ingradients	Quantity	Type of antidote	Action
Powdered charcoal	2 Parts	Physical	Adsorbs alkaloids
Magnesium oxide (milk of magnesia)	1 Part	Chemical	Neutralize acid
Tannic acid	1Part	Chemical	Precipitate alkaloids, Glycosides and metals

**Indications of prativisha<sup>[10]</sup>**

1. When the effect of poison are not subsided by Mantra-Tantra procedures and other *Aushada Upakarma* and drug administration.
2. When *Visha-Pidita* has crossed 5<sup>th</sup> Vega, but has yet not completed 7<sup>th</sup> Vega. i.e. either in 6<sup>th</sup> or 7<sup>th</sup> *Visha Vega*.
3. Emergency condition or when all method of treatment fail, the *Prativisha* should be administered.

**Contra-indication of prativisha<sup>[11,12]</sup>**

1. In case of doubt whether a person is having poison or not.
2. Agada administered after the lapse of 7<sup>th</sup> *Visha Vega*.
3. When poison is localized in blood, *prativisha* should not be administered.
4. In person who consumes *Ruksha Aahar* (dry food), use of *prativisha* produces disorder of vision, pain in the ear and *vatavyadi*.
5. *Prativisha* should not be administered during rainy season and on cloudy days.
6. Who are in anger, suffering from diseases of Pitta.
7. Who is troubled very much from hunger, thirst, exertion, sun, light, long walk or disease, the pregnant woman, children, the aged person.
8. Those are dry (emaciated greatly) and those suffering from disease of vital organ.

**Procedure of administering antidote (*Prativisha proyoga vidhi*)<sup>[13]</sup>**

*Aacharya Vagbatta* is *Astangha Sangraha* has stated the method of use of *prativisha*.

1. The person should be purified by ghee.
2. Who is taking healthy food.
3. He is strong and healthy mind (*Satvika Prakriti*).

**Suitable time for the procedure**

The patient who has been purified by the ghee. In such person *prativisha* should be administered counter-poison after sunrise and during winter and spring seasons generally, and

in summer for emergency diseases only.

In present Era we can use of *prativisha*/antidote using above management in different chronic poisoning conditions.

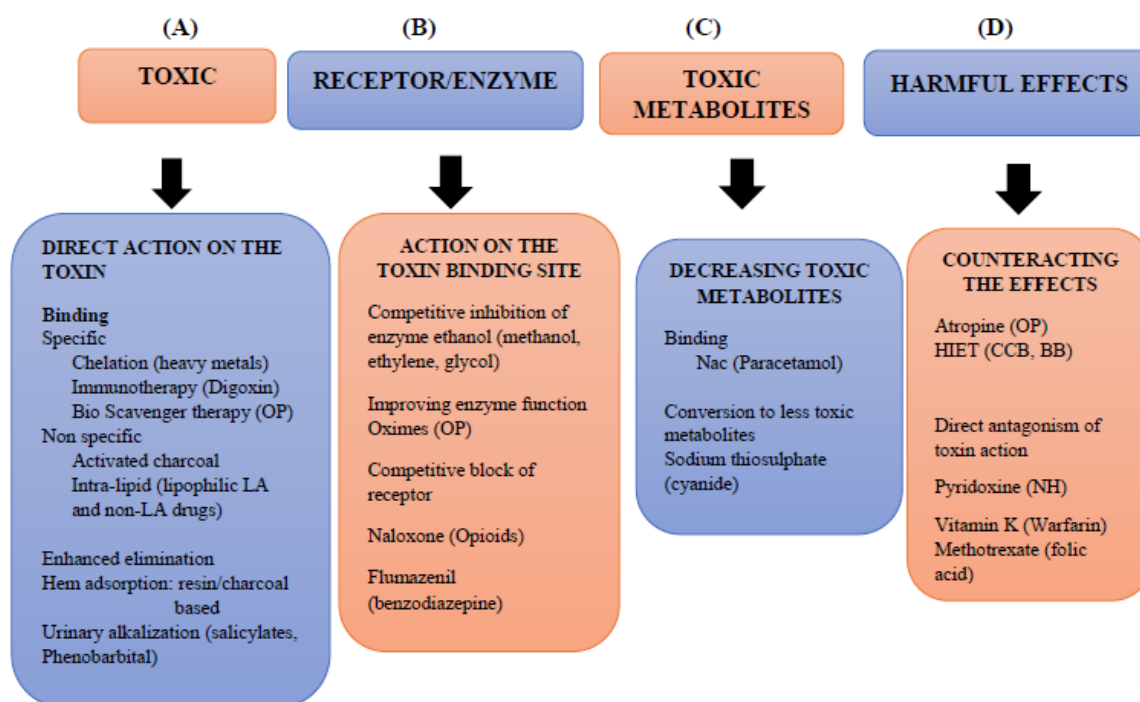
### Dose of Prativisha in different poisoned condition<sup>[14]</sup>

1. For patient of snake bite(Jangham visha)-Vegetable poisons(Sthaver visha) should be use in the different doses-
  - *Heena Matra* (minium dose) - 4 Yava (1 Ratti=125mg)
  - *Madhyama Matra* (moderate dose) -6 Yava (187.5mg)
  - *Uttama Matra* (maximum dose)- 8 Yava (250mg)
2. For the patients of insect bite( keeta dansha)- 2 Yava Matra (62.5mg)
3. For scorpion bite- 1 Tila Matra
4. In case of spider bite- *sthavara visha* should not be consumed orally; it should be applied to skin after *Pracchana karma* (Incision).

### Mechanism of action of antidotre<sup>[15]</sup>

Antidotes act by four predominant mechanisms-

- 1) Direct action on the toxin.
- 2) Action on the toxin binding site.
- 3) Decreasing toxic metabolites
- 4) Counteracting the effects



### Common antidotes described in ayurveda

Common antidote in *Ayurveda* are *Swarna*, *ghrita*, *godugdha* and *madhu*.

#### 1. Ghrita as an antidote<sup>[16]</sup>

*Ayurveic* classics have mentioned *ghrita* as the as the drug of choice for treatment of poisons. *Acharya Sushruta* says the qualities of *ghrita*, it is destroyer of poison and clearly mention that in all type of poisonings, irrespective of state of the *ghrita* is best treatment. Patient of poisoning, *ghrita* should be used alone or with other anti-poisons drug, in case of *Vruschika visha*, *Alarka visha*, *Agnikarma* etc.

#### 2. Madhu as an antidote<sup>[17]</sup>

*Aacharya Sushruta* and *vagbhata* has clearly mentioned *madhu* is very useful that in all type of poisoning, irrespective of state of patient.

#### 3. Cow milk (Godugdha) as an antidote<sup>[18]</sup>

*Godugdha* has similar properties to that of *Ojas*, so act as *Rasayan*, *hurdy*, *balavardhaka*, *jeevaneeya*, *ayushya*.

**Table 2: List of *Vanaspathic visha* (Sthavar visha) and its specific ayurvedic *prativish* antidote.**

S. N.	Vish	Prativisha	Antidote
1.	Ahiphena	1)Aadhraka <sup>[19]</sup> 2)Shunthi <sup>[19]</sup> 3)Brahatsudra Rasa(1Pal) with Milk <sup>[20]</sup>	Naloxone-0.4-2mg IV/IM (repeated every 2-3 min upto-10mg, if no response occurs). Naltrexone-50mg/day for several weeks or months. Nalmefene-0.1mg followed by 0.5mg. <sup>[21]</sup>
2.	Bhallataka	1)Kapikachchu <sup>[19]</sup> 2)Palash pushpa <sup>[19]</sup> 3)Meghanadh Cholai with navneet –Lepa <sup>[20]</sup> 4)Navneet+Daru haridra+sharshap+Mustak <sup>20</sup>	Not specific antidot.
3.	Dhatura	1)Nimbu swarasa, Jiraka <sup>[19]</sup> 2)Godhugdha(1Prastha+sharkara(2 Pal <sup>[20]</sup> 3)Vrantaka phala beej Ras(1Pal) – Pana <sup>[20]</sup> 4)Karpas Asthi+Karpas pushp kuwatha – Pana <sup>[20]</sup>	Physostigmine- 0.5-2mgIV/IM <sup>[22]</sup>
4.	Snuhi ksheera	Avartaki <sup>[19]</sup> Suwarna-gairika with water – Pana <sup>[20]</sup>	Not specific antidote
5.	Vatsnabha	1)Megdhnadh Ptra swarasa <sup>[20]</sup> 2)Patvn vraksha Rasa(1Pal <sup>[20]</sup>	Chemical antidote (tannic acid-10gm in 2 liter of water) <sup>[23]</sup>

6.	Arka ksheera	1)Nili Swarasa <sup>[20]</sup> 2)Suwarna gairika with water – Pana <sup>[20]</sup> 3)Chincha Patra with water – Mardhan <sup>[20]</sup>	Not specific antidote
7.	Gunja	1)Medhnada Rasa with Sharkara – Pana <sup>[20]</sup> 2)Kewal godugdha – Pana <sup>[20]</sup>	Anti-abrin <sup>[24]</sup>
8.	Karveera	Haritaki <sup>[19]</sup> Mahish Dadhi with Sharkara <sup>[20]</sup> Arka Twaka Churna with water – Pana <sup>[20]</sup>	Not specific antidote
9.	Kuchala	1)Jambu <sup>[19]</sup> 2)Ketki <sup>[19]</sup> 3)Madhu+Sharkara+Ghrita – Pana <sup>[20]</sup>	Barbiturates (0.3-0.6gm in 10cc distilled water up to 5 times, IV <sup>[25]</sup>
10.	Langali	Shunthi <sup>[19]</sup>	Not specific antidote
11.	Eranda	–	2-5 gm sodium bicarbonate -8 hour <sup>[26]</sup>
12.	Bhanga	Shunti with Godahi <sup>[20]</sup>	Not specific antidote

**Table 3: List of Jangham visha and its specific Ayurvedic Prativisha & Antidote.**

S.N.	Jangham Visha	Prativisha	Antidote
1.	Snake bite	<ol style="list-style-type: none"> <li>Ghrahadhoom+haridra+daruharidra+Tanduliyak smoola – Anupan madhu,ghrit<sup>[27]</sup></li> <li>Langhali Moola pishta in water– Nasya<sup>[28]</sup></li> <li>Araka Moola+ tankana – pishta in water –Pana<sup>[29]</sup></li> <li>Shobhanjana beeja – Bhavna dravya(shirish swarasa) –Nasya, Pana, Anjanartha<sup>[30]</sup></li> <li>Vakra+ kushtha (2Pal) + Shodra ghrita (4Pal)- Pana<sup>[31]</sup></li> </ol>	Anti-snake venom <sup>[32]</sup>
2.	Scorpion bite	<ol style="list-style-type: none"> <li>Jiraka kalka+ghrit +Sendhav +madhu – Lepa<sup>[33]</sup></li> <li>Rock salt powder + warm cow ghee – Lepa<sup>[34]</sup></li> </ol>	Anti-Scorpion venom <sup>[35]</sup>
3.	Rabies	<ol style="list-style-type: none"> <li>Sharpunkha Moola (1 karsh) + Dhatura (1/2 karsha) with Tandulodak-Pana<sup>[36]</sup></li> <li>Dhatura patra kalka with Tandulodaka – Pana<sup>[37]</sup></li> <li>Purana ghrita – Pana<sup>[38]</sup></li> <li>Shirisha beeja + Snuhisheera -Lepa(dansha sthan)<sup>[39]</sup></li> </ol>	Purified chick embryo cell vaccine (PCBC Vaccine) Post exposure 1 ml IM injection on 0,3,7,14,30,90 days. Prophylaxis 0,30,60 and booster after 1 year human diploid cell vaccine (HDC Vaccine) Post exposure 0,3,7, 14,30,90 days Prophylaxis 1ml intradermal / IM Vaccine 0/30 days followed by a booster every year.



			Human Rabies Immune Globulin (HRIG) 20 units per Ig IM in gluteal region Rabies Vaccine Absorbed(RVA), foetalrheusus lung diploid cell vaccine – 1ml, IM And wound area on 0,3,7,14,28 days <sup>[40]</sup>
4.	Spider (Loota)	Pipali +Sleshmatk +Bibhitaka – lepa <sup>[41]</sup>	Not antidote specific
5.	Keeta Visha	1. Dashang Agada <sup>[42]</sup> 2. Champaka Agada <sup>[43]</sup> 3. Padhamka Agada <sup>[44]</sup>	Wasp-Antihistamine cream Hydrocortisone <sup>[45]</sup>
6.	Shatpadi	Kumkumadi Agada <sup>[46]</sup>	Not antidote specific
7.	Piplika	Krashn Valmiki mratika pishti with gomutra – Lepa <sup>[47]</sup>	Not antidote specific
8.	Makshika	Krashn Valmiki mratika pishti with gomutra – Lepa <sup>[47]</sup>	Not antidote specific
9.	Galgolika	Rajanyaadi Agad <sup>[48]</sup>	Not antidote specific
10.	Manduka	1. Meshsharangi Agada <sup>[49]</sup> 2. Shirisha (seed)+Snuhi sheera –lepa <sup>[50]</sup>	Not antidote specific

**Table 4: List of Dhatu visha and its specific ayurvedic Prativish & Antidote.**<sup>[51]</sup>

S. N.	Dhatu visha	Prativisha	Time	Antidote
1.	Abharaka	Aamlaki fruit pisti in water	3 days	Not specific antidote
2.	Makshika	1)Kulatha kasaya 2)Dadima tvaka	3 days	Not specific antidote
3.	Suvarna	Haritaki with sharkara	3 days	Not specific antidote
4.	Ropya	Sharkara+ madhu	3 days	Not specific antidote
5.	Tambra	Sonfa with sharkara-early morning Pana		<b>Mechanical antidote</b> White eggs or milk Demulcent drink <b>Chemical antidote</b> Potassium ferrocynaide <b>Physiological antidote</b> Calcium EDTA BAL Panicillamine <sup>[52]</sup>
6.	Loha	Durva Rasa with madhu		Not specific antidote



7.	Naga	Hema haritki +sita mishri	3 days	<b>Mechanical antidote</b> Demulcent drinks, milk, egg white etc. <b>Chemical antidote</b> Magnesium sulphate & Sodium sulphate <b>Physiological antidote</b> EDTA <sup>[53]</sup>
8.	Vanga	Meshsharngi +sita	3 days	Not specific antidote
9.	Yashada	Ela + madhu sharkara	3 days	Not specific antidote
10.	Manahashila	Jiraka + mashika	3 days	Not specific antidote
11.	Hartal	Jiraka with sharkara Kushmanda Rasa	7 days	Not specific antidote
12.	Ras karpooora	Dhaniya with sharkara -Pana		Not specific antidote
13.	Parada	Nagvalli Rasa+	3days	<b>Mechanical antidote</b> Demulcent drinks, milk, egg white, Activated charcoal <b>Chemical antidote</b> Magnesium sulphate & Sodium sulphate <b>Physiological antidote</b> BAL – 3-4mg /kg IM every 4hour Panicillamine <sup>[54]</sup>
		bharangraj + Tulsi Rasa take one of these in Prastha Matra only and Mardhana with Aaja milk	(two Prahara everyday)	

**Table 5: List of Antidotes in specific Poisoning.**<sup>[55]</sup>

<b>Specific poisoning</b>	<b>Specific antidote</b>
Acetaminophen/Paracetamol	NAC
Aspirin	Sodium bicarbonate
Arsenic	BAL
Anticholinergic poisoning	Physostigmine
Beta blockers	Glucagon, Insulin
Benzodiazepines	Flumazenil
Botulism	Guanidine
Rodenticide poisoning-warfarin	Vit K1
Arsenic	Dimaval
Calcium channel blockers	Atropine, insulin, calcium, lipid emulsion
Copper	Penicillamine
Chloroquine	Desferrioxamine mesylate
Lead	Calcium disodium EDTA
Mercury	N-Acetyl Penicillamine
Methanol	Ethanol
Tricyclic Antidepressant	Sodium bicarbonate
Snake bite	Anti-snake venom
Scorpion sting	Anti-Scorpion venom
Insulin	Glucose/dextrose

## CONCLUSION

*Ayurveda* knows the importance of *Prativisha* (Antidote) in counteracting poison effects. *Visha* is having like *Laghu*, *Aashu*, *Sukshma*, *Vyavayi*, *Vikashi* and so on qualities which will penetrates *Sukshmatikusshma* srotas and act very quickly hence *Prativisha* is used by *dravyas* which will neutralize and counteracts the effect of poison. These *prativisha* should be used in the form of internal and external application.

Hence this article had explained about some specific antidote for *Stavara* and *Jangama visha*. Classical *prativisha* (antidote) are to be evaluated scientifically with special reference to their effect, dosage, safety and applicability. It would be useful for emergency situations or day-to-day clinical practice.

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