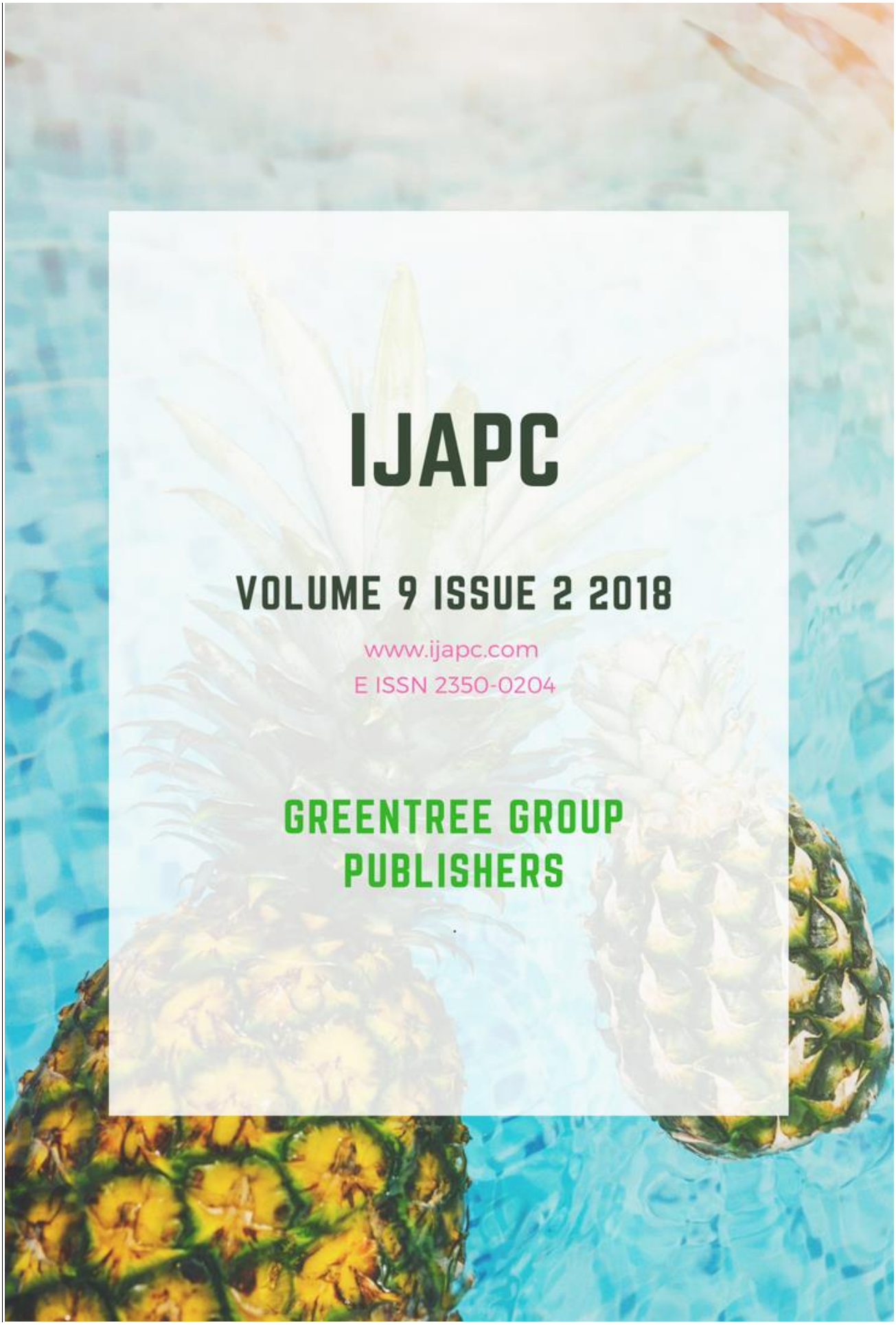

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The Effect of Processed and Unprocessed Medicines in Ayurveda-A Review

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ABSTRACT

Rasashastra is an important branch which deals with Rasadravyas which are widely used in therapeutics in the present era. Bhasmas of Rasadravyas play an important role, as their nanoparticles renders them to be easily absorbed by the human body. Acharyas have explained in Rasashastra Classical texts, the preparation method of Bhasma through incineration process for therapeutic effect. To confirm that the incineration is complete, certain Bhasma parikshas are been mentioned such as- rekhapurnatva, varitaratva etc. The Bhasmas which pass these tests (parikshas) are considered to be Pakva Bhasma whereas those that do not pass these tests are considered as apakva Bhasma. Administration of pakwa Bhasma gives therapeutic effect, whereas administration of ashudha (due to improper shodhana/purification or no shodhana/not purified at all) and apakva (due to imporper incineration) leads to diseases or disorders. Acharyas have not only mentioned the specific complications that occur due to these but also their antidotes to overcome them. Hence, in this review, we highlight the importance of Bhasma along with the ill-effects and treatment for ashuddha and apakwa Bhasma.

KEYWORDS

Metals, Minerals, Bhasma, Ashuddha bhasma, Apakwa bhasma

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INTRODUCTION

Rasashastra is an integral part of Ayurveda which exclusively uses various metals and minerals for therapeutics. It deals with the drugs of metals/mineral origin-their varieties, various characteristics, processing techniques such as shodhana (purification), marana (incineration) in detail, Bhasma parikshas (quality control tests) like varitara, rekhapurna, niruttha, apunarbhava, amlapariksha, nischandra, nirdhuma, the properties of Bhasmas, their therapeutic indications, reasons for developing adverse effects and their management in comprehensive way.

Poisoning means injury or death due to swallowing, inhaling, touching or injecting various drugs, chemicals, venom or gases. Toxicity is the degree to which a substance can harm humans, animals or particular tissue, cell. In recent years, accumulated toxicity data on the hazardous effects of heavy metals have made the biomedical scientists apprehensive, about the usage of heavy metals in therapy. Therefore in order to evaluate the factualness of toxicity opinion, classical texts were reviewed for the documentation of awareness of toxicity due to metals/minerals and its management, in case toxicity occurs.

MATERIAL AND METHODS

For the documentation of awareness of toxicity due to metals/minerals and its management, the classical texts - Ayurveda prakasha, Bruhat rasarajasundara, Rasaratna samucchaya, Rasa tarangini, Rasajalanidhi were reviewed.

RESULTS

It is noteworthy that for the safe use of mineral drugs, thorough purification of raw materials, stringent procedure for processing and extreme precise dosage for dispensing is advised in the classics of Ayurveda especially Rasashastra. Additionally the features of toxicity are also detailed, in case inadvertency creeps in the procedure along with its management.

DISCUSSION

Acharyashave elaborately explained the process of Shodhana and Marana, to ensure thorough detoxification and safety of drugs of metallic/mineral origin. Along with this also mentioned therapeutic dose of bhasma (Table no.1).

Awareness of toxicity due metals and mineralsmentioned in Rasashastra texts (listed above)are not only detailed but also classified as due to “improperly purified (ashudda)” and “improperly processed (apakwa)” raw materials.By using these ashuddha and apakwabhasma will leads to

Table 1 Therapeutic dose of Bhasmas

Sl	Name of Bhasmas	Dose
1	Mercury (parada)	125 mg [4]
2	Gold (swarna)	15 to 30 mg[5]
3	Silver (rajata)	30 to 125mg [5]
4	Copper (tamra)	15 to 60 mg[5]
5	Iron (loha)	30 to 250 mg[5]
6	Lead (naga)	30 to 125 mg [5]
7	Tin (vanga)	125 to 250mg [5]
8	Zinc (yashada)	60 to 125 mg [5]
9	Brass (pittala)	60 to 125 mg[5]
10	Bronze (kamsya)	60 to 125 mg[5]
11	Mica (abhraka)	225 to 250 mg[4]
12	Tourmaline (vaikranta)	10 to 60 mg[5]
13	Copper pyrite (makshika)	60 to 125mg [5]
14	Iron pyrite (vimala)	60 to 250mg[5]
15	Black bitumen(shilajatu)	250mg to 1gm[5]
16	Blue vitriol (sasyaka)	15 to 30 mg[5]
17	Calamine(rasaka)	60 to 125mg
18	Sulphur (gandhaka)	125mg to 1 gm[4]
19	Orpiment (haratala)	30 to 60mg[4]
20	Realgar (manashila)	15 to 30mg[4]
21	Arsenic(gowripashana)	1mg to 4mg[5]
22	Cinnabar (hingula)	62mg [4]

complications of gastrointestinal tract (table.no.2), respiratory (table no.3), dermatological (table no.4), neurological (table no.5), genito-urinary (table no.6), nephrological (table no.7) and general complications like fever, pain, fatigue etc.,(table no.8).

Most of the antidotes used are shodhanadravyas, which are those having opposite Veerya of the rasaushadi, being converted into Bhasma.Rasaoushadhis undergo various Samskaras like Shodhana, Marana, Satwapatana, Amritikarana, etc., which converts the crude metal to Bhasmas form which should be acceptable by the body. The drugs which are mentioned in the treatment of toxicitywill remove the toxic effects through different routes of the body like sweat, excreta, tears etc(table no. 9). For example:Abhaya acts as Anulomaka (laxative); Ghrita and Madhu are having Vyavayi and Vikasigunas(quick action) which removes toxic effects; milk acts as a demulcent and laxative and prevents irritation in GIT.

Between Rasashastra and contemporary sciences, the similarity is striking in the description of toxicity due to Hg, Pb, Cu, Sn, and Fe. Furthermore description of poisoning are mentioned even on those metals and minerals for which there is a dearth of information in contemporary science regarding its toxicity. To conclude, proper purification and incineration have to be done to avoid complications and to have a good therapeutic action of Bhasma.

CONCLUSION

Rasa drugs either in purified state or incinerated form have shown potent effect with least dosage. But, even then Acharyas elaborately explained their ill effects due to improper purification and incineration, along with its management caused by

Ashuddha and ApakwaBhasmas. Hence, it is imperative that properly prepared mineral and metallic medicines do not produce any complications at therapeutic dose.

Table 2 Gastro Intestinal Tract Complications:

Sl.no	Complications	Ashudda	Apakwa
1	Distension of abdomen (adhamana)	Mercury[7]	---
2	Diarrohea(atisara)	---	Mercury[7]
3	Hiccups (hikka)	---	Mercury[7]
4	Vomiting (chardi)	Copper[3], blue vitriol[3], calamine[2]	Mercury[7], copper[1], zinc[1]
5	Ageusia(aruchi)	---	Mercury[7]
6	Constipation (vibandha)	Silver[2], black bitumen[2], realgar[5]	---
7	Pain in anal region (gudaruk)	Brass[1], bronze[1]	---
8	Sprue syndrome (grahani)	Iron pyrite[3]	---

Table 3 Respiratory Complications

Sl.no	Complications	Ashudda	Apakwa
1	Cough (kasa)	Arsenic[2]	Mercury[7]
2	Breathlessness (swasa)	Arsenic[2]	---
3	Yawning (jrumbha)	---	Mercury[7]

Table 4 Dermatological Complications

Sl.no	Complications	Ashudda	Apakwa
1	Itching sensation (kandu)	Copper[3]	Silver[1]
2	Skin disorders (kusta)	Copper[1], mica[2], copper pyrite[3] ,sulphur[1]	Lead[1], tin[1]
3	Excessive sweating (atisweda)	Gold[1]	---
4	Reduced complexion (kantihaani)	Copper[1], iron[1]	---
5	Burning sensation (daha)	Copper[1], tourmaline[2],black bitumen[2], orpiment[3]	---
6	Swelling (shotha)	Black bitumen[2]	Mercury[7]
7	Hyperthermia (taapa)	Brass[1], bronze[1]	---

Table 5 Neurological Complications

Sl.no	Complications	Ashuddha	Apakwa
1	Tremors (kampa)	---	Mercury[7]
2	Insomnia (anidra)	Mercury	---
3	Neurological disorders (vatavyadhi)	----	Zinc[1]
4	Giddiness (brama)	Mercury, copper[1],bronze[1], blue vitriol[8], black bitumen[2], calamine[2], sulphur[1], cinnabar	Zinc[1]

Table 6 Genito-Urinary Complications

Sl.no	Complications	Ashuddha	Apakwa
1	Priapism (lingastambha)	---	Mercury[1]
2	Azospermia(shukranasha)	Silver[2]	---
3	Impotence (shandatva)	Iron[1]	---

Table 7 Nephrological Complications

Sl.no	Complications	Ashudda	Apakwa
1	Renal calculi (mutraashmari)	Real gar[5]	---
2	Urinary obstruction(mutrakrucchra)	Real gar[5]	---

Table 8 General Complications

Sl.no	Complications	Ashudda	Apakwa
1	Fainting (murcha)	Copper[1], black bitumen[2]	Mercury[7]
2	Delusion (moha)	Copper[1], cinnabar[3]	Mercury[7]
3	Fever (jwara)	Orpiment[3]	Mercury [7]
4	Pain (shula)	Copper[1], iron[1], mica[2], tourmaline[2]	Mercury[7], lead[1]
5	Lethargy (alasya)	---	Mercury[7]
6	Fatigue (shramakara)	Gold[1]	---
7	Headache (shirashula)	---	Silver[1]
8	Anemia(pandu)	Mica[2], tourmaline[2]	Silver[1], lead[1], tin[1]
9	Bodyache(angamarda)	Lead[1], tin[1]	---
10	Diabetis(prameha)	---	Tin[1],mica[3]
11	Tumor (gulma)	Lead[1], tin[1]	---
12	Affects longevity (ayuhani)	Orpiment[3] ,iron[1]	Iron[2]
13	Gout (vatarakta)	--	Tin[1]

Table 9 Management of toxicity

1	**Parada(Mercury)**	**Matulungaswarasa with saindavalavana for 3days**
2	Swarna(Gold)	Abhaya+sita 3days[1]
3	Rajata (Silver)	Sharkara+Madhu for 3days[1]
4	Tamra (Copper)	Munivrihi+ sitapanam/ dhanyaka+sitapanam for 3 days[1]
5	Loha (Iron)	Munirasa + vidanga+ abraka bhasma[2].
6	Naga (Lead)	Swarnabhasma+haritaki+sitapaana for 3 days[1]
7	Vanga (Tin)	Meshashringi+sitapana for 3 days[1]
8	Yashada(zinc)	Balabhaya+sitapana for 3 days [1]
9	Pittala(Brass)	Dhanyaka+sitapana for 3 days[2]
10	Kamsya(Bronze)	Dhanyakahima + sitapana for 3 days
11	Abhraka (mica)	Atasibeeja grinded with jala for 3 days [6]
12	Vikranta (Tourmaline)	Kulatthakwatha/kadalikandaswarasa/nimbuswarasa 48g for 7 days
13	Makshika (Copper pyrite)	Kulatthakwatha with dadimatwak kwatha[1]
14	Vimala(Iron pyrite)	Meshashrungichurna with sharkara for 3days[1]
15	Shilajatu (Black bitumen)	Maricha choorna with ghrita[1]
16	Sasyaka(Blue vitriol)	Lajamanda for 3days or jambeera ,nimbuswarasa[1]
17	Rasaka(Calamine)	Gomutra 5-5 tola for 1week[1]
18	Gandhaka (sulphur)	1 litre of milk +100g of ghrita for 2 weeks[1]
19	Haratala(Orpiment)	Sita+jeeraka+madhu+kushmandaswarasa 50g TID for 3days[6]
20	Manashila(Realgar)	½ litrgodugdha with 250g of madhu for 3days[6].
21	Gowripashana(Arsenic)	Grita,eggyolkTila with navaneeta and sita/Karavellakaswarasa with tankanadrava, grita, sita
22	Hingula(cinnabar)	Matulungaswarasa with saindavalavana

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