

## Scientific Interpretation of Mritsanrakshan Paddhati as Per Sushruta Samhita

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### ABSTRACT

For whole knowledge of body we have to study anatomy subject theoretically also practically. By the dissection of human cadaver. There are several methods of dead body preservation in modern science. In *Ayurveda*, a special method for dead body preservation is given by *Acharya Sushruta*. This method is called "*Jalnimajjan Paddhati*" of *Mritsanrakshan*". According to *Ayurvedic* texts *Acharya Sushruta* is best in *Sharir Sthan*. He is described many anatomical structures of human body and useful information of every segment of body. He also told about 7 skin layers and their thickness and 7 types of *Kalas* with their order. This was possible because of complete dissection.

**KEYWORDS:** Dissection, Human cadaver, *Jalnimajjan Paddhati*, *Mritsanrakshan*, *Kalas*

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### INTRODUCTION

No one can become good in anatomy subject without knowing it properly. Because it is the most important branch of medical science. In *Ayurveda* According to *Acharya Sushruta* who knows the anatomy properly by dissecting dead body he will definitely good in surgery, because he knows the vital parts of body like arteries (*Dhamani*), veins (*Sira*), nerves (*Nadi*), *Marma* points etc. to escape from injury during surgical process.<sup>1</sup> *Acharya Sushruta* has told about many points of references in his text for selection and preservation of the human dead body. These are points are like, human dead body (cadaver), having all its parts of a person who has not died by either poison or chronic disease or attaining hundred years of age etc. According to *Sushruta* dissection is prime for medical student to gain practical command on anatomy subject, that's why he mentioned about preservation method and dissection technique of cadaver.

### AIM AND OBJECTIVES

1. To learning the procedure of cadaveric preservation mentioned by *Sushruta* in his text.

2. To interpretate the terms of procedures he used in his text according to modern science.

### MATERIAL AND METHODS

*Ayurvedic* texts like *Sushruta Samhita*, Dr. Bhaskar Govind Ghanekar commentary on *Sushruta Samhita* etc. and few published articles references.

### INTERPRETATION OF CADAVERIC PRESERVATION PROCEDURE ACCORDING TO MODERN SCIENCE-

*Acharya Sushruta* used many references in his text for preservation-

“तस्मात् समस्तगात्रमविषोपहतमदीर्घव्याधिपीडितमवर्षशक्तिं निःसृष्टान्त्रपुरीषंपुरुषमवहन्त्यमापागायाँ निबध्म पंजरस्थं मुंजवल्कलकुशशणादीनामन्यतमेनावष्टितांगप्रत्यंगमप्रकाशे देशे कोथयेत्, सम्यक् प्रकुथितं चोद्धृत्य ततो देहं सप्तरात्रादुशीरबालवेणुवल्ककूर्चानामन्यतमेन शनैः शनैरवधर्षयंस्त्वगादीन् सर्वानेव बाह्याभ्यन्तरांगप्रत्यंगविशेषान् यथोक्तान् लक्षयेच्चक्षुषा “॥ (सु.शा.5/61)<sup>2</sup>

In this caution there are some point of references are explained like-

#### 1. समस्तगात्रम् (Samastagatram):-

- According to *Sushruta* human dead body (cadaver), having all its parts in natural condition not extra or less in number.<sup>3</sup>

#### 2. अविषोपहतम् (Avishopahatam):-

- According to *Sushruta* person whom body going to be preserved has not died by poison. Because due to poison body parts are effected and body not remain in its natural state.<sup>4</sup>

#### 3. अदीर्घव्याधिपीडितम् (Adeerghavyadhipeeditam):-

- According to *Sushruta* person whom body going to be preserved has not died by Chronic diseases because these kind of diseases damage the body parts like -In leprosy skin is damaged, In syphilis nasal bone and other bones are damaged, In gonorrhea penis is damaged etc. These kind of body give us wrong information about the study of body parts. There is not any kind of damage in starting stage of acute diseases so if dead body suffered from acute disease previously it should be taken for dissection purpose.<sup>5</sup>

#### 4. अवर्षशतिकम् (Avarshashatikam):-

- *Sushruta* refuses to take old person's body as well as children's body. Because old person's body parts are get degenerated like, Changes in skin, fall down of teeth, bones become weak, muscles get shrink, ligaments get flaccid and in old female body uterus get shrinks. On other hand in children body parts are not properly developed so we cannot find the natural state of body parts. Like total teeth not present, bones not formed well etc. That time the maximum age limit is 100years so above this age the person considered old, Hence *Sushruta* told the term *Avarshashatikam* which means not above the 100 years. But in present era average age level diminished so we can take body having age of 50 to 55 years.<sup>6</sup>

#### 5. निःसृष्टान्त्रपुरीषं (Nisrushtaantrapureesham):-

- According to *Sushruta* intestine along with faeces should be removed because many bacteria present here and they fastly decomposed the dead body. There are two kinds of benefit here for removal of intestine with faeces that body not decomposed by bacteria and intestine available for specimen purpose.<sup>7</sup>

#### 6. अवहन्त्यमापागायँ (Avagahntyamaapgayam):-

- According to *Sushruta* dead body should be well tied and kept in river which has slow running stream so that dead body keep contact continue with water and skin get soft and moist and body prevent from bed odour.<sup>8</sup>

#### 7. निबधम् (Nibadham):-

- Here *Nibandham* word meaning is kept tied as previously told. So that body should not flow or drown and remain under water.<sup>9</sup>

#### 8. पंजरस्थं (Panjarastham):-

- *Sushruta* told that Dead body should be placed inside a cage to protect from water animals.<sup>10</sup>

#### 9. मुंजवल्कलकुशशणादीनामन्यतमेनावेष्टितांगप्रत्यंगम्

(Munjavalkalkushshanadinam Anyatamen Aaveshtita Angpratyangam):-

- Dead Body should be wrapped either with *Munja*, *Valkala* (inner barks of trees), *Kusha* (grass part of *Panch Trinamoola*), *Shana* (hemp) or any such material. The reason behind this wrapping should be protect body from small water animals like fish etc.<sup>11</sup>
- Because fish may be the reason behind the postmortem injury so that the organisms may invaginate in the body and decomposed it.<sup>12</sup> And dead body skin get soften for dissection purpose.<sup>13</sup>
- Some specific details about these wrapping materials are as follows-

Plant name	Botanical name	Family	Properties	Specific content
1. <i>Munja</i>	<i>Saccharum munja</i> Roxb	Graminae	Source of natural fibre <sup>14</sup>	-
2. <i>Valkala</i>	5 Plants are considered in <i>Valkala</i> - 1. <i>Nyagrodha</i> (Ficus bengalensis Linn.), 2. <i>Udumbara</i> (Ficus glomerata Roxb.), 3. <i>Ashvatha</i> (Ficus religiosa Linn.), 4. <i>Pareesha</i> (Thespesia populnea Soland.) and 5. <i>Plaksha</i> (Ficus lacor Buch.Ham.)	<i>Nyagrodha</i> , <i>Udumbara</i> , <i>Ashvatha</i> , <i>Plaksha</i> - Moraceae family and <i>Pareesha</i> - Malvaceae family	Antiseptic, Anti-inflammatory, Antioxidant, Antibacterial, Antimicrobial Wound purifying and Healing, and Astringent <sup>15</sup> In <i>Ayurveda</i> these five are called <i>Panchavalkala</i> which is <i>Shothahar</i> (reduces swelling) and <i>Vranaropaka</i> (helps in wound healing)	All these 5 plants contain tannins <sup>16</sup>
3. <i>Kusha</i>	<i>Desmostachya bipinnata</i> Stapf	Graminae	Antibacterial effect against gram negative and gram positive organism <sup>17</sup> , Astringent, Antiseptic and toning properties <sup>19</sup>	Tannin <sup>18</sup>
4. <i>Shana</i>	<i>Crotalaria juncea</i> Linn.	Leguminoaceae	Source of natural fibre <sup>20</sup> , Astringent <sup>21</sup> , Antimicrobial activity <sup>22</sup>	

## 10. अप्रकाशे देशे कोथयेत (Aprakashdeshe Kothayet:--

- According to *Sushruta* dead Body should be kept in hidden dark place and allowed to undergo decomposition. The meaning of *Aprakashdeshe* (dark area) is the place where people don't go or hardly go. Or the other reason is the water of that dark place not seen by people or not used by people so that infection through water cannot spread to the people.<sup>23</sup> And another reason is for taking dark place for keeping the body is that normal people cannot see the dead body. So that body should be easily kept there.<sup>24</sup>

## 11. सम्यक् प्रकुथितं चोद्धृत्य ततो देहं सप्तरात्रात् (Samyak Prakuthitam Ch Uddhutyata Tato Deham Saptaratrat):-

- After seven days knowing that dead body has become properly putrified, it should be taken out and wrapping removed.<sup>25</sup>

## 12. उशीरबालवेणुवल्ककूर्चानामन्यतमेन शनैः

शनैरवघर्षयंस्त्वगादीन् सर्वानेव बाह्याभ्यन्तरांगप्रत्यंगविशेषान् यथोक्तान् लक्षयेच्चक्षुषा (Ushir Bal Venu Valkala Kurchaanaam Anyatamen Shanai Shanai Avgharshyanstvagadin Sarvaneva Bahyaabhyantarangpratyang Visheshan Yathokran Lakshaye chchshusha):-

- Scrubbing the dead body slowly with brushes made from *Usheer* (grass), *Bala* (hairs), *Venu* (bamboo), *Valkala* (inner bark of trees), *Kurcha* (grass part of *Panch Trinamoola*) or any other similar material and then the body with all the external (*Bahya*) and internal (*Abhyantara*) parts like the skin, muscles etc. should be fully observed by eyes (*Pratyaksha*).<sup>26</sup>
- The reason behind slow scrubbing of dead body is to see the minute structures of body parts and different skin layers mentioned by *Acharya Sushruta*.<sup>27</sup>

## CONCLUSION

Therefore, we can say that *Mritasanshodhan Paddhati* [preservation method of dead body (cadaver)] according to *Acharya Sushruta* has a scientific base at each and every step of preservation like keeping body in water or choosing the plants for wrapping the body, which have the properties of antiseptic, anti-inflammatory, antioxidant, antibacterial, antimicrobial, wound purifying and healing and astringent, which helps to preserve the body. Now a days in other texts the reference about the *Mritasanshodhana Paddhati* (Preservation of dead body) and the type of dissection method mentioned, which is the unique contribution from *Susruta Samhita*.

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