To Study the Efficacy of Ayurvedic Dhoopan for Operation Theater Sterilization

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Abstract Since Vedic period Homa-havana and Yadnya, sterilization of air by Agnihotra, sterilization of house & place around it by Dhoopan, is going on traditionally. Also it is useful in branches of Ayurveda like Shalya, Shalakya, Kaumarbruthyat and Prasutistreerto. Sushruta has also explained the method of treating Vrana, Vranitaagara and Shastrakarmaghruha by this method of Dhoopana. Hence present experimental study was planned to study the efficacy of Ayurvedic Dhoopana Dravya like Guggulu, Aguru, Sarjarasa and Sarshapa, added with Lavana, Nimbapatra & Ghee. After Dhoopan process swab were collected & send to laboratory for testing and significant results was obtained.

Keywords Dhoopana; Fumigation; Swab; Guggulu; Bhutavidya; Rakshoghnadravyas

1. Introduction

Maharshi Sushruta developed most of the part of surgery after Bhagwana Dhanvantari. He was the first to make advances in respect of body dissection to get the perfect knowledge of anatomy. He developed many Yantra, Shastra and surgical technique that are accepted today even by modern science. He was first to introduce use of alcohol for the purpose of anesthesia [1]. He had demonstrated types of fractures, bandages and burns, in which nothing can be added extra as per modern surgical science. He demonstrated not only obstetrics but also various Ayurvedic techniques like Agnikarma, Ksharkarma and Raktamokshana. No doubt, everyone knows him as a “Father of Surgery” for his systematic and basic principles of surgery in Sushrut Samhita.

There are millions of micro-organisms around us, in air, cloths etc. The dead cells fallen from the surface of the body carries thousands of such organisms and to our surprise, it contributes almost 37% of our house hold dusts. Not only this, even gram positive cocci called staphylococcus Aureus lives in nostrils of 30% population [2]. All the things around us can get contaminated by such organisms. They are harmful and pathogenic, especially on open wounds, incision, scars and can
results them into major complications. Thus it carries a lot of importance to disinfect the operation theatre before proceeding to any major or minor operative procedures [3].

In Ayurveda, Achararya Sushruta as described above was the one, who developed the surgery most, in his Sushruta Samhita, he has advised to do dhoopan with Rakshoghna Dravyas [4]. He has stated many combination & different types of Dhoopa for different types of organisms.

Whether one believe it or not, but all our ancient literature proves on more or less extend that, though the terminology was different i.e., Bhutavidya means microbiology. But our Aacharyas had very detailed knowledge about human anatomy, principles of remaining healthy & medicinal cure. Acharya Charaka gives Dhoopana for Varna Chikitsa [5]. In Ashtanga Sangra there is description of Dhoopana in Rakshavidya. Also there is advise of Dhoopana to the Satikaagara with the help of Dravyas mentioned in Vrana Chikitsa [6], Acarya Kashyapa has given separate Dhoomakalpaadhyaya for Dhoopana, aim of this Adhyaya is to keep Sutika and new born healthy. He has described different Dhoopas and also advised in Garbhaavastha, Dhoopana of bed, clothe, chair and whole Sutikagruha. It shows that Dhoopana is helpful in disinfecting environment of that particular area [7]. Achararya Sushruta mentioned aseptic precautions before any surgical procedures, all instruments being used should be heated up to red hot to prevent infection [8]. From above references we can conclude that Ayurvedic drugs have efficacy for sterilization so this attempt is made to check the efficacy of Ayurvedic Dhoopana Dravyas.

2. Aims and Objectives

To study the efficacy of Dhoopana Dravya for Operation Theatre fumigation.

2.1. Drug Study

In the Present study followings drug combination was used [9]. Each drug taken 100 gm in powder form.

Table 1: Properties of Experimental Drugs for O.T. Fumigation

<table>
<thead>
<tr>
<th>No.</th>
<th>Dravya</th>
<th>Latin Name</th>
<th>Rasa</th>
<th>Virya</th>
<th>Vipaka</th>
<th>Karma</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ghrut</td>
<td>------</td>
<td>Madhur</td>
<td>Sheeta</td>
<td>Madhur</td>
<td>Rakshoghna</td>
</tr>
<tr>
<td>2</td>
<td>Sarshap</td>
<td>Brassica Nigra</td>
<td>Katu</td>
<td>Ushna</td>
<td>Katu</td>
<td>Rakshohara &amp; Krimighna</td>
</tr>
<tr>
<td>3</td>
<td>Vacha</td>
<td>Acorus Calamus</td>
<td>Katu, Tikta</td>
<td>Ushna</td>
<td>Katu</td>
<td>Bhuta-jantvahara</td>
</tr>
<tr>
<td>4</td>
<td>Guggul</td>
<td>Commiphora Mukul</td>
<td>Katu, Tikta, Kashaya</td>
<td>Ushna</td>
<td>Katu</td>
<td>Krumijayeta</td>
</tr>
<tr>
<td>5</td>
<td>Nimba</td>
<td>Azadirachta Indica</td>
<td>Katu, Tikta, Kashaya</td>
<td>Sheeta</td>
<td>Katu</td>
<td>Krumipraneta</td>
</tr>
<tr>
<td>6</td>
<td>Agaru</td>
<td>Aquilaria Agollocha</td>
<td>Katu, Tikta</td>
<td>Ushna</td>
<td>Katu</td>
<td>Kruminashaka</td>
</tr>
<tr>
<td>7</td>
<td>Sarjarasa</td>
<td>Resina of shorear obusta Gaerten</td>
<td>Tikta, Kashaya</td>
<td>Sheeta</td>
<td>Katu</td>
<td>Grahannashaka</td>
</tr>
<tr>
<td>8</td>
<td>Lavana</td>
<td>Sodium Chloridum</td>
<td>Lavana</td>
<td>Sheeta</td>
<td>Madhura</td>
<td>Sushma</td>
</tr>
</tbody>
</table>

Above mentioned experimental drugs in Table 1 which was used for O.T. fumigation, in present study drugs are Rakshoghna, Krimighna and Grahannashaka in action and hence tried for O.T. fumigation. All above mentioned drugs in Table 1 are shown in Figure 1.
2.2. Place of Work

Shalya Tantra Department operation theater of SVNHT’s Ayurved Mahavidhyalaya, Shri Shivaji Nagar, Rahuri, District- Ahmednagar, Maharashtra, India.

2.3. Dhooopan Procedure

In present clinical experimental study when we tried to study the effect of Ayurvedic Dhoopana is described as below. The preparation of O.T. fumigation procedures like locking of all the windows and ventilators or making air tight using plastic P.V.C. tape & switching of fan & AC. The doors were also packed with tape with after Dhoopana & O.T was kept unentered for not less than 12 hours. The O.T. was allowed to use next day. There is no authentic & similar method given in any samhita as a specific, we had tried as below. Firstly we placed one trey in central part of O.T. & experimental drug powder was kept in a trey l. A little methylated spirit is poured over the cured powder to ensure burning of the powder completely. Little fire to the powder and close the door. The O.T. is opened after 12 hours.

The swab were collected as schedule, from

i) Operation table
ii) Over head lamp
iii) Walls
iv) Instruments trolley
v) Ceiling

The swab was send to laboratory for testing.
3. Observations and Discussion

The swab reports of O.T. Dhoopana were surprisingly similar to modern technique of formalin fumigation & very promising i.e. results read as “No microbes found” (Satisfactory). But then a query stucked our mind later on, questioning that there may be a possibility that there were no microbes present even before the Dhoopana procedure was performed. So obviously the results had to be negative, whether Dhoopana was done or not. When we thought of this possibility, we come to a conclusion that this was quite possible because of very hygienic conditions that were being maintained at O.T. & aseptic precautions that were practiced.

In our view, though with some very good results, the “No effect” (Satisfactory) results cannot be neglected or made unseen.

To come out of this dilemma, we were advised by laboratories to go for to see Dhoopana Drug effect on bacterial colony count and some advanced experiments using each drug individually for inoculation on those bacterial colony and thus non affecting drug can be retained out of the regimen & thus increasing the efficacy of our drug mixture. But due to enormous expense that was quoted by laboratories, it was beyond the scope of this experiment study, otherwise of which some sponsorship was required for further research in this direction.

4. Conclusion

Ayurvedic Dhoopana may be less effective but it showed significant results & can used as insects repellent, room purifier & air freshener. At least observation obtained from present study shows that our drug is full of potentials like a rough piece of carbon, but a diamond needs to be carved out after a deep research, both in terms of facilities & financial support by means of sponsorship or scholarship.

References


