

A Preclinical study of role of Arishta Namak Dhoop in immunosuppressed diseases

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Abstract: Ayurveda is a science of life which not only cures the disease but also prevents many diseases with the help of different treatment modalities mentioned in *dinacharya* and *rutucharya*. Dhupana is one of the important karma for prevention of various diseases caused by microorganisms. In *Kashyap Samhita*, there is a detail study of dhupana karma under *Dhup Kalpa Adhyay*. Here an attempt to prove the role of Arishta Namak Dhoop in diseases which are caused by microorganisms in current lifestyle.

Key Words – Arishat namak dhoop , prevention of diseases & Immunostimulant activity.

INTRODUCTION:

Dhupan karma is one of the classical ancient remedy of sterilization to maintain healthy biological environment all over the world. It is essential to maintain good asepsis to do various karmas. *Kashyap samhita* have mentioned 40 dhupan yoga in *dhup kalpadhyay*; *Sushrutacharya* mentioned dhupan karma of shalya karma mandir in *Vranitopasaniya adhyay* ,while *Charakacharya* mentioned dhupan of vastras and vranitagar in *Jatasutriya sharir adhyay*.

Dalhana explained procedure of sterilization in *Sushrut Chikitsasthan*. Before surgery shalyakarma mandir must be fumigated or disinfected to avoid infections. The source of most hospital epidemics is infected patients i.e. patients contaminated with pathogenic organisms. These microorganisms are often released into

environment in very high numbers, exceeding the minimal infective dose & contaminate others who subsequently develop hospital acquired infections i.e immunosuppressed patients. Neem perhaps the most useful medicinal traditional plant in India. Each part of tree has medicinal property & is thus commercially exploitable. Indian Neem (*margosa tree*) has a Sanskrit name ARISHTA meaning 'reliever of sickness' and hence is considered as *sarbaroganiharini*. Here considering immunostimulant property of neem, i made an attempt to use Neem panchang in the form of dhupan yoga mentioned as arishta dhup with reference of *kashyap dhup kalpadhyay* as *rakshoghna dhup yoga* for fumigation of hospital IPD wards and operation theatre to prevent Various synthetically derived chemicals were used to develop sterile environment in hospitals, but considering their harmful effects on health ; there is time need to produce a herbomineral

drug which will improve immune system & make a similar impact to prevent growth of microorganisms which produce health hazards. Arishta namak dhup has mentioned as Rakshoghna dhup in kashyap dhupa kalpadhyay.

Material method:

Nimb (Azadiracta Indica.) =5 gm

Dhupan yantra.

Vranitagara & IPD word.

Method of preparation of dhupan yog:

1. Root, leaves, flower, bark & seed each 1 gm was taken in crude dried form.
2. They grinded & mixed together with the help of khalavayantra.
3. Stored in a plastic container in a cool dry place.
4. 5 gm of dhupan yoga was kept on dhupan yantra.
5. Dhupan was given for 30 mins and vranitagara and IPD word was kept closed for 12 hours.
6. Culture swabs were taken before & after dhupan process and sent to pathology laboratory.
7. Culture swabs were found positive for growth of e coli, staphylococcus aureus and pseudomonas aeruginosa before dhupan.
8. The growth of microorganisms mentioned above was found decreased after dhupan process.

Discussion:

The process of sterilization finds an application for prevention of contamination by extraneous organisms in surgery for

maintenance of asepsis, in food and drug manufacture for ensuring safety from contaminating organisms and in many other situations.

All the available ayurvedic and modern literature were reviewed for the concept of fumigation, sterilization and disinfectant techniques used in hospital and drugs which are used for fumigation (dhupan). It was found that concept of sterility, asepsis and antisepsis is mentioned in various samhita granthas in Ayurveda.

Arishta namak dhup yog for fumigation of vranitagara and IPD word was selected for the present study by considering its significance. Before dhupan karma 4 culture swabs were taken from vranitaagara & sent to the laboratory. After 12 hours of opening seal of vranitaagara 4 culture swabs were taken and sent for culture. It was observed that all pre dhupan swabs were found positive for growth of staphylococcus aerus, pseudomonas aeruginosa & e coli. Similarly, all these swabs were showing decreased growth after dhupan process of vranitagara showing that dhupan yoga is effective in suppressing growth of these microorganisms. Dhupan karma has Agni, Akash & Vayu Mahabhotadhikya along with sukshmastrotogamitva. So, sterilization property of drugs was attained at microbiological level.

As per the study; Neem has krumighna property because of tikta katu rasa which showed a positive impact to decrease growth of microorganisms. As mentioned in previous studies neem seed oil and C-seco meliacins isolated from neem seeds has strong antifeedent activity. Condensed tannins from bark containing gallic acid, galocatechin, epicatechin, catechin are primarily responsible

for inhibiting the generation of chemiluminescence by activated human polymorphonuclear neutrophil (PMN), indicating that these compounds inhibit oxidative burst of PMN during inflammation. So, ultimately they are responsible to boost up defence mechanism in the humans. Even dried neem leaves after burning are helpful to keep away mosquitos in tropical regions. It is used as antihelminthic, antifungal, antidiabetic, antibacterial, antiviral, contraceptive & sedative. Azadiractin is an active ingredient of neem oil. It contains phytoconstituents as nimbin (sulphur free crystalline product with melting point at 205^o c; nimbidin (cream coloured amorphous sulphur) which is main antibacterial ingredient & highest yielding bitter component in the neem oil which also serves as natural insecticides. Neem leaf & bark is an effective pitta pacifier due to its bitter taste; so effectively recommended in early summer for shaman of pitta dosha.

Immunostimulant activity:

The aqueous extract of Neem Panchang especially bark possess anti compliment activity, acting both on alternative as well as classical pathway of compliment activation in human serum. An aqueous extract of stem bark and leaf possesses potent immunostimulant activity as evidenced by both humeral & cell mediated responses. It increases titres of antioalbumin antibody, hence improves immunity. Neem oil has been shown to possess immunostimulant activity by selectively activating the cell mediated immune mechanisms to elicit an enhanced response to subsequent mutagenic or antigenic challenge.

All these phytoconstituents are responsible to increase immune system. Hence, this effect was used in the form of dhupan yoga to prevent

illness in human beings by maintaining asepsis in hospital IPD wards and operation theatre i.e. Vranitagar.

Conclusion:

The Arishta namak dhup yoga having content of Neem panchang, the versatile medicinal plant is the unique source of various types of compounds having diverse chemical structure. A very little work has been done on biological & dhupan activity. A plausible medicinal applications of these compounds is needed to exploit their therapeutic utility to combat disease.

As the global scenario is now changing towards the use of non toxic herbomineral drugs over synthetically derived chemical compounds for sterilization development of ayurvedic formulations like Arishta namak dhup from neem should be emphasized for control of various diseases and development of immune system. In fact time has come to use countries old knowledge through modern approaches of development of fumigation as per ancient classics of Dhupan karma.

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