COUNCIL FOR AYURVEDA RESEARCH

AyuUpdate

COUNCIL FOR AYURVEDA RESEARCH / Vol 03 / Issue 04 (Oct- Dec)

From the Founder:

Happy Halloween from the CAR team!! New England is beautiful at this time of the year with a riot of colors all around. We are happy to add some good news from our end to the joy and festivities in the air. CAR Journal Club has been launched successfully, under the able leadership of Dr. Anupama Kizhakkeveettil. We have already had two calls wherein we discussed and analyzed two excellent research papers thoroughly. It is the start of a great learning experience for all participants. As of now, these calls are available for participation to the US residents only as the call number is US based. We invite volunteer help to identify a suitable learning platform, so that we can open the sessions to wider participation.

At this time, we are also very proud to acknowledge the opening of the All India Institute of Ayurveda, which was formally inaugurated by the Honorable Prime Minister of India, on the auspicious Dhanvantari Day (Ayurveda Day), October 17th.

Please email us at ayurvedaresearchusa@gmail.com if you wish to get involved in our unfolding endeavors. You can also stay updated and connected by visiting our website, following us on Twitter (@PratibhaAyurved), joining our Facebook group and/or liking our Facebook page. Stay tuned for more announcements ahead!!

Pratibha Shah

(Pratibha Shah, Masters In Ayurveda, MPH)

Research Abstract

Anti-microbial Activity of Tulsi (Ocimum Sanctum) Extract on a Periodontal Pathogen in Human Dental Plaque: An Invitro Study

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Introduction: Periodontal disease is a chronic infectious disease of the oral cavity and one of the principal causes of tooth loss in humans. This chronic inflammatory disease that affects the supportive tissues of the teeth has a complex etiology [1]. One of the major etiological factors for periodontal disease is the dental plaque biofilm on the teeth surfaces [2]. The noxious products produced by the bacteria in dental plaque trigger the inflammatory process in the periodontal tissues. Actinobacillus actinomycetemcomitans, in human dental plaque is one of the most commonly implicated micro-organisms in the causation of periodontal disease [3]. Hence, reducing their levels in the oral cavity is one of the rationales for the prevention and control of periodontal disease.

Tulsi is a popular healing herb in Ayurvedic medicine. It is widely used in the treatment of several systemic diseases because of its anti-microbial property. However, studies documenting the effect of Tulsi on oral disease causing organisms are rare. Hence, an attempt was made to determine the effect of Tulsi on a periodontal microorganism in human dental plaque.

Aim: To determine if Ocimum sanctum has an anti-microbial activity (Minimum Inhibitory Concentration and zone of inhibition) against Actinobacillus actinomycetemcomitans in human dental plaque and to compare the antimicrobial activity of Ocimum sanctum extract with 0.2% chlorhexidine as the positive control and dimethyl sulfoxide as the negative control.

Results: At the 6% w/v concentration of Ocimum sanctum extract, a zone of inhibition of 22 mm was obtained. This was the widest zone of inhibition observed among all the 10 different concentrations tested. The zone of inhibition for positive control was 25mm and no zone of inhibition was observed around the negative control.

Conclusion: Ocimum sanctum extract demonstrated an antimicrobial activity against Actinobacillus actinomycetemcomitans. The maximum antimicrobial potential was observed at the 6% concentration level. Undesirable effects due to prolonged use of currently used antibacterial agents and financial considerations there is a need for alternate preventive and treatment strategies that are safe, effective and economical when compared to existing treatment methods. In this direction, natural phytochemicals isolated from traditional medicinal plants like Tulsi serve as a good alternative.

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News and Upcoming events

INTERNATIONAL EVENTS

- International AYUSH Conference & Exhibition 2017 is being held in Dubai from 9th to 11th November 2017. This Conference is being organised under the patronage of His Excellency Sheikh Nahyan bin Mubarak Al Nahyan, Cabinet Member & Minister of Culture and Knowledge Development with the guidance & patronage of Indian Embassy Abu Dhabi and Consulate General of India, Dubai.The theme of this Conference is "Life style diseases-prevention and management through AYUSH http://www.ayushdubai.org/home
- 24th International conference on" Ayurveda for Health & Wellness " co-organized by Europe Ayurveda Academy and Global Ayurveda Conferences , LLC is being held on Nov 11&12 2017 at London, UK . www.europeayurvedaacademy.org

INDIAN EVENTS

- Department of Shalya Tantra, Faculty of Ayurveda, Institute of Medical sciences, Banaras Hindu University, Varanasi is organizing a National Conference on Recent Trends on 11th Nov.2017 at Dhanwantari Hall Department of Shalya Tantra Faculty of Ayurveda IMS BHU. Visit:- http://www.bhu.ac.in/seminar/sep2017/12/854.pdf
- International Academy of Ayurveda (IAA) & Dr.D.Y.Patil College of Ayurveda & Research Center, Pimpri, Pune jointly organizing International Conference on Ayurveda on ""Ayurveda for Disease Free Society" at Dr. DY Patil College of Ayurved & Research Institute, Pimpri, Pune on 14th -15th January 2017. https://www.facebook.com/photo.php?fbid=10213259076608067&set=pcb.1655837411113353&type=3&theater

" Quote of the month "

Practicing regular exercise, intake of wholesome food and being truthful helps one to stay free from diseases. (A.Hr.Su.5/36)

" Kitchen Spice Tip "

For a disturbed sleep due to stress - Almonds soaked for 10-12 hours and peeled can be taken with a glass of warm milk before going to bed.

Domain Expert Corner

Designing the right kind of Clinical Trial protocols in Ayurveda: A proposal

Need for good clinical trials in Ayurveda – Double blind randomized placebo-controlled trials have been long regarded as the gold standards that provide evidence regarding the efficacy of any intervention, and hence, one cannot afford to ignore this trend. When there are sufficient numbers of such double-blind trials, there will be room for meta-analyses and systematic reviews, which will form the best possible evidence. However, when one considers Ayurveda interventions, it becomes obvious that there are no good meta-analyses in the literature because of a paucity of good clinical trials.

Why conducting good clinical trials in Ayurveda is difficult? – Ayurveda is a complex system that considers multiple clinical and other parameters while deciding a specific line of treatment. These parameters include individual constitution (*Prakriti*), digestive strength (*Agnibala*), nature of bowel evacuation (*Koshtha*), metabolically immature and mature state (*Saama-Niraama)* and many more. Further, the diagnosis of a disease in Ayurveda too is complex one. Different individuals suffering from the same clinical condition, non-infective gastroenteritis for example, may be diagnosed by different names such as *Visuchika*, *Atisara*, *Grahani*, *Ajirna*, *Adhoga Amlapitta*, and *Shula* etc. Further, there could be external factors such as seasons (*Ritu*) and place of residence (*Desha*) that might differ in each of these individuals. This in fact leads to many possible permutations and combinations in interventions. In a nutshell, different patients suffering from same disease may receive different interventions according to Ayurveda. This situation poses a challenge in designing a good clinical trial because the generally accepted method of conducting clinical trial involves comparing the efficacy of one intervention against either placebo or another intervention. Mostly, a linear cause-effect relationship is assumed in such trials. For example, it may be one antibacterial agent vs. another antibacterial agent in case of infective conditions, and one analgesic vs. another analgesic in conditions that are associated with pain. This model may be sufficient to guide biomedical clinical practice because this is how biomedicine is practiced. However, this model of clinical trial is not suitable in the context of Ayurveda because Ayurveda practitioners involve multiple algorithms in decision-making. This is the reason why available literature on Ayurveda clinical trials is grossly insufficient: these protocols are blind copies of the clinical trials involving biomedical interventions. Therefore, there is a huge gap between how Ayurveda is practiced and how it is researched!

Recent attempts – It is important to note that during the past few years there have been a few sincere attempts at designing right kind of Ayurveda clinical trials in a manner that is true to the principles of Ayurveda. In one of these trials on rheumatoid arthritis, the autonomy of a physician in the form of individualizing the complex interventions was preserved. Because this study was published in one of the leading journals of rheumatology, it was expected that many such studies would be attempted at. However, it is strange to see that researchers have not yet considered this as the right template for building up evidence in favor of Ayurveda interventions. One of the reasons for this is that Ayurveda academia does not take up serious kind of research in general. Another factor may be that most of the Ayurveda teachers are ignorant of these attempts and hence, this model has not yet probably percolated into Ayurveda colleges and research institutions.

Suggested algorithm – I suggest that the complexity involved in deciding interventions must be considered at an early stage while designing a good clinical trial. All possible permutations and combinations of parameters and diagnoses must be enumerated in the beginning itself and the individualization methods must be made clear. It is a good idea to include a panel of clinically successful Ayurveda practitioners to deliberate and finalize this. Such a trial would prove fruitful in testing the "whole system" against either standard of care or a placebo, as the case may be. A flowchart involving the following factors must be prepared and each intervention at every possibility must be pre-decided: the factors related to the individual could be *Prakriti*, *Agnibala*, *Koshtha*, *Dhatu Sarata*, occupation, lifestyle, dietary habits, etc. The factors related to the disease could be *Saama-Niraama* stage, *Nava-Purana* State, stage of the disease (*Kriyakala*), the diagnosis of the condition, accompanying conditions such as obesity, hypertension etc. The factors related to environment - *Ritu*, *Desha* etc.

Limitations of this approach and available alternatives – This approach may be too complex and it may be difficult to enumerate all possible permutations and combinations beforehand. Conducting such complex studies with the limited available resources may be another problem. This is especially true because as the number of permutations and combinations increase, the number of formulations and other interventions too would increase. Standardization of raw materials, standardization of pharmaceutical processes etc. would consume lot of time and resources. In such cases, I suggest that a study can be limited to one set of possibilities. For example, a study could be framed something like "Effectiveness of Ayurveda intervention in the young-adult population of *Pitta Prakriti* with acid-peptic disease presenting as *Vidagdhajirna* in *Sharad Ritu*". Though such an alternative would require excluding many cases of the same disease, still would prove to be practical.

Science versus non-science dilemma – Most of the hardcore science lovers have a bias against alternative therapies and often call such methods 'pseudo-medicine' or 'pseudoscience'. It is high time that Ayurveda researchers come up with right kind of clinical trial protocols and start publishing the results. This would in long run help every one of us to understand what Ayurveda actually is. Till that time Ayurveda will continue to be perceived by scientists based on the trials that are poorly designed and that ignore core principles.

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Case Study Abstract

AYURVEDIC APPROACH FOR "ACUTE DISSEMINATED ENCEPHALOMYELITIS (ADEM)"

ADEM is a rare autoimmune demyelinating disease by a sudden wide spread attack of inflammation in the brain and spinal cord, possibly triggered by viral infection. Major symptoms include high-grade fever, headache, nausea, vomiting, hemiparesis or paraparesis. In Ayurveda this may be correlated to "*Ekadasha rupa Rajayakshma* as *agantuja nidanarthaka vyadhi* for *dhatukshayajanaya sarvangavata*" under the broad classification of *vatavyadhi*.

A 28 years old female patient with a 12 days old history diagnosed of Acute disseminated encephalomyelitis (ADEM) presented with *teevra jwara* (high-grade fever ranging between 100^{o}-103^{o} F since 12days), *teevra shirashoola* (severe headache), *kasa* (cough), *praseka* (nausea), *teevra chardhi* (severe vomiting) for which she was put on Ryle's tube feeding, *angadaha* (burning sensation in the whole body), *shwasa* (breathlessness), *aruchi* (reduced appetite), *urdwa-adha shaka karmahani* (loss of strength in upper limbs grade 1/5 and lower limbs grade 0/5), *sparshahani* in adhashaka (loss of sensation in the lower limbs from the level of umbilicus) and *vit-mootra dharana asamarthata* (bowel and bladder incontinence).

Patient was treated with classical approach of Ayurveda. As *Rajayakshma* is a complex of many diseases, *Avasthika chikitsa* (stepwise treatment) followed for *strotavarodha*, *agnimandhya*, *dhatwagnimandhya*, *dhatukshaya* and *ojakshaya* by *strotoshodhaka*, *deepana-pachana*, *dhatwagnivardhaka*, *saptadhatuvardhaka*, *ojovardhaka* treatments like *Panchakola phanta*, Guduchi, *Pippalyadi Ghrita*, *Erandasadita ksheera* and external therapies like *Alepa*, *Vestana* and *Dashamula Parisheka* were performed. The whole treatment schedule was observed for a period of 2 weeks.

Appreciable results were observed by complete recovery from certain symptoms - Fever reduced in 2 days of starting the treatment, there was relief from headache, cough, breathlessness, burning sensation in the body, nausea, vomiting, and patient was taken off the Ryle's tube feeding and began taking food by mouth. Appetite improved considerably. There was complete gain of power in both upper limbs (grade 5/5) at the end of 2 weeks of treatment. No significant improvement observed in the motor and sensory deficits of the lower limbs (grade 0).

KEYWORDS: Ayurveda, *Rajayakshma, Sarvangavata*, ADEM, *Nidhanarthakaroga.*

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