

A Study to Evaluate the Antibacterial Activity of Homoeopathic Medicine *Myristica Sebifera*, *Mercurius Iodatus Ruber* and *Hamamelis Virginica* Against *Staphylococcus Aureus*: In Vitro

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ABSTRACT

Staphylococcus aureus is a Gram-positive, non-moving cocci found in grape-like clusters in the upper respiratory tract and skin. It is a member of the Bacillota and can grow without oxygen. Although it acts commensally, it can also become an opportunistic pathogen, causing skin infections, respiratory infections, and food poisoning. In 1880, Scottish surgeon Alexander Ogston discovered that *Staphylococcus* can cause wound infections after observing bacteria in pus from surgical abscesses. *S. aureus* is a common bacteria that can be found on the skin of the host, but most of its carriage occurs through the nasal passages and ears. The purpose of this study is to assess the antibacterial efficacy of the homoeopathic remedies *Hamamelis virginica*, *Myristica sebifera*, and *Mercurius iodatus ruber* against *Staphylococcus aureus*. As a result, the Agar Well-Diffusion assay is employed to screen the bacteria at 30C, 200C, and 1M potencies. Findings: *Myristica sebifera* 30C(11) mm, 200C (9) mm, 1M (10) mm; *Mercurius iodatus ruber* 30C (6) mm, 200C (8) mm, 1M (7) mm; *Hamamelis virginica* 30C(3) mm, 200C(4) mm, 1M (5) mm; *Mercurius sebifera* in 1M showed maximum Growth inhibitory zone (GIZ) against *Staphylococcus aureus* following comparison with Vehicle control (dispensing alcohol or ethanol 90%) and Positive control (Amoxycyclavatum).

Keywords; *Myristica sebifera*, *Mercurius iodatus ruber* and *Hamamelis virginica*, Empirical treatment, *staphylococcus aureus*, Zone of inhibition

AIM

to ascertain the zone of inhibition created by the application of *Hamamelis virginica*, *Myristica sebifera*, and *Mercurius iodatus ruber* against *Streptococcus aureus*.

METHODOLOGY

This study used standard streptococcus aureus strains from Sarada Krishna Homoeopathy Medical College and Hospital in Kulasekharam. Bacterial inoculum was prepared by suspending colonies into nutrient broth and storing at 4°C. Homoeopathic medicine Myristica sebifera, Mercurius iodatus ruber, and Hamamelis virginica was purchased from Amirtha Homoeopathy pharmacy. A sterile disc was soaked with extracts and air-dried for six hours before being used for antibacterial study. Mueller Hinton Agar (MHA) was prepared by suspending 38gm of medium in distilled water, heating, boiling, autoclaving, and cooling. The solution was poured into petri dishes, and inhibition zones were examined around the disc. Zones of inhibition were measured in millimeters, and activities were classified as resistant, intermediate, or sensitive.

FIGURE 1: Antibacterial assay of homoeopathic medicine and control by Kirby-Bauer method in Staphylococcus aureus

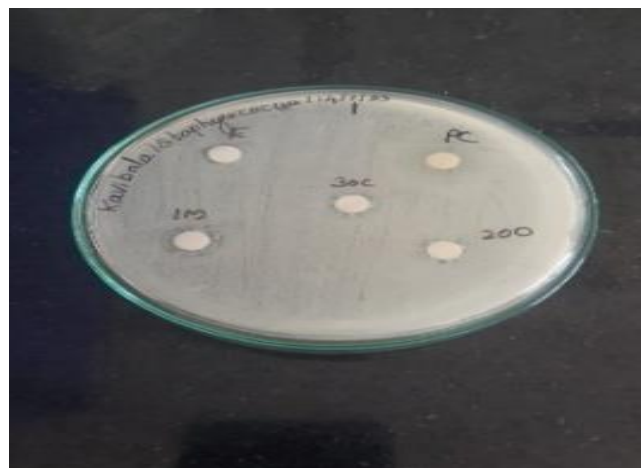
Plate 1 & Plate 2

MERCURIUS IODATUS RUBER & MYRISTICA SEBIFERA



Plate 3

HAMAMELIS VIRGINICA



**TABLE 1: Zone of Inhibition of streptococcal pneumonia and Control By Kirby-Bauer Method
Bacterial strain: Staphylococcus aureus**

Medicine	Potency	Inhibition zone
Myristica sebifera Plate -1	30c	11mm
	200c	9 mm
	1M	10mm
	PL (Dispensing alcohol)	5mm
	Positive control	10mm
Mercurius iodatus ruber Plate-2	30c	6mm
	200C	8mm
	1M	7mm
	PL (Dispensing alcohol)	5mm
	Positive control	7mm
Hamamelis Plate-3	30c	3mm
	200C	4mm
	1M	5mm
	PL (Dispensing alcohol)	1mm
	Positive control	3mm

OBSERVATION

With zones of inhibition measuring approximately 11 mm, 10 mm, and 10 mm, respectively, all three of the potencies of Myristica sebifera on plate 1—30 c, 200 c, and 1 M—exhibited antibiotic activity. Comparing the activities to others, the 30c potency was high. Mercurius iodatus ruber 30c, 200C, and 1M exhibited antibiotic activity in plate 2, with corresponding zone of inhibition measurements of 6mm, 8mm, and 7mm. Hamamelis virginica, plate 3. The lowest activity measured at 1M potency was 7 mm, whereas no activity was seen at any other potency. Upon comparing the three medications, Myristica sebifera 30C displayed the highest activity at 11 mm, followed by 1M, and Mercurius iodatus ruber 200 displayed an activity of 8 mm, followed by Mercurius iodatus ruber 1M displaying 7 mm activity. Hemalies 1 m with 5 mm of limited activity came next. In comparison to 30c, which shown activity of 7mm in two trials, 1M potencies demonstrated better activity, followed by 1M potencies with inhibitory zone values of 10mm, 7mm, and 5mm.

DISCUSSION

One of the main bacterial causes of a variety of illnesses, such as septicemia, cellulitis, food poisoning, osteomyelitis, and abscesses, is S. aureus. This bacteria can be found on the skin, in the pharynx, and in the noses of about one-third of healthy people. The cellulitis is One of the prevalent illnesses in the community that enters through a skin break or crack. Methicillin-resistant Staphylococcus aureus (MRSA) is a more dangerous staphylococcus infection that is becoming more common. Although cellulitis can develop anywhere on the body, lower legs are the most frequently affected. The most common ways for bacteria to penetrate skin that is damaged, dry, flaky, or swollen are through cuts, puncture wounds, ulcers, athlete's foot, or dermatitis. The study demonstrates that Homoeopathic medicine has a better growth

inhibition zone (GIZ) than vehicle control (ethanol 90%). *Myristica sebifera* has antiseptic properties, while *Mercurius iodatus Ruber* is useful for treating bacterial infections, skin issues, and infections after sexual contact. *Hamamelis virginica* acts on bruised soreness and is particularly useful in open, painful wounds. According to Aphorism 27, the curative power of medicine depends on symptoms similar to the disease but superior in strength, ensuring that each individual case is effectively and permanently eliminated by a medicine capable of producing the same symptoms as the disease. This study further demonstrates that the Homoeopathic medicine's zone of suppression of *Staphylococcus aureus* was not caused by ethanol, but rather by a number of unique dynamic pharmacological activities.

CONCLUSION

The results of this investigation unequivocally demonstrate that *S. Aureus* can be inhibited by the homoeopathic medicines *Myristica sebifera*, *Mercurius iodatus ruber*, and *Hamamelis virginica* 30, 200, and 1M, especially *Myristica sebifera* 1M efficacy. Because the human body has a strong propensity for *staphylococcus aureus* infections from birth, limiting bacterial infections using homoeopathic medications may help prevent paediatric infections as well as the usage of antibiotics and their associated consequences. Given that this is a novel discovery, more research on the subject is warranted for the good of humanity

BIBLIOGRAPHY

1. *Staphylococcus aureus* [Internet]. Wikimedia Foundation; 2023 [cited 2023 Sept 30]. Available from: https://en.m.wikipedia.org/wiki/Staphylococcus_aureus
2. Liu GY. Molecular pathogenesis of *Staphylococcus aureus* infection [Internet]. U.S. National Library of Medicine; 2009 [cited 2023 Sept 30]. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2919328/>
3. Cellulitis [Internet]. Mayo Foundation for Medical Education and Research; [cited 2023 Sept 30]. Available from: <https://www.mayoclinic.org/diseases-conditions/cellulitis/symptoms-causes/syc-20370762>
4. *Myristica sebifera*: The Homoeopathic Lancet [Internet]. 2020 [cited 2023 Sept 30]. Available from: <https://www.homeopathy360.com/2017/01/21/myristica-sebifera-the-homoeopathic-lancet/>
5. Hering C. The guiding symptoms of our materia medica. New Delhi: Jain; 1986.
6. Boericke W, Boericke OE. Pocket manual of homoeopathic materia medica: Comprising the characteristic and guiding symptoms of all remedies (clinical and pathogenetic). Delhi: Motilal Banarsidass Publishers Private Limited; 2015.
7. Allen HC. Keynotes and characteristics, with comparisons of some of the leading remedies: With some of the nosodes, Sarcodes, & imponderable drugs from the materia medica of the nosodes, etc. New Delhi: Indian Books & Periodical Syndicate;