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Uighur Theory: *Nerium oleander* Aqueous Leaf Extracts as a Possible Source of COVID.19 Vaccine

Mosab Nouraldein Mohammed Hamad*

Head of Medical Parasitology Phylum, Medical Laboratory Department, Faculty of Health Sciences, Elsheikh Abdallah Elbadri University, Sudan

***Corresponding Author:** Mosab Nouraldein Mohammed Hamad, Head of Medical Parasitology Phylum, Medical Laboratory Department, Faculty of Health Sciences, Elsheikh Abdallah Elbadri University, Sudan.

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Abstract

N. oleander is normally existing in Mediterranean regions of Africa and Europe, it is an evergreen shrub or small tree. Leaves are linear, leathery and dark green to grey green, with dissimilar light yellowish veins. Florae are in groups at the landfill of branches, they are white to pink to deep red, with five dispersal petals. The fruit is a narrow pod and encompasses numerous silky-haired seeds. The juice is dense, sticky and clear.

The contagion by SARS-CoV-2 has taken on sizes of pandemic features. In the Chinese populace, investigations have documented presence of leukopenia on infirmity admission, chiefly at the expenditure of moderate to severe lymphopenia and mild thrombocytopenia.

My theory said that; *Nerium oleander* aqueous leaf extracts as a possible source of COVID.19 vaccine is an effective immunization method for the pandemic. The hypothesis is not tested till now.

Keywords: *Nerium oleander*; Extracts; COVID-19 Vaccine

Background

In latest years, old-style system of medicine has become a theme of global significance. Several of the plant species that deliver medicinal herbs have been technically assessed for their conceivable medicinal applications. It stated that natural environments for medicinal plants are vanishing at a quicker rate and together with ecological and geopolitical fluxes; it is progressively problematic to meet herbal derived compounds [1].

N. oleander is naturally present in Mediterranean districts of Africa and Europe, it is an evergreen shrub or small tree. Leaves are linear, leathery and dark green to grey green, with distinct light yellowish veins. Flowers are in groups at the tip of branches, they are white to pink to deep red, with five spreading petals. The fruit is a narrow pod and comprises many silky-haired seeds. The juice is dense, sticky and clear [2].

Its customary use observed. In Tanzania the hot water extract of its fresh leaves used for its antibacterial activity; in South Africa it used as an abortifacient In Iran the dried leaf extracts used as a cardiogenic and diuretic in edema. In Cuba it is a folklore medicine. In Malaysia the plant has been used for its tumor promoting activity. In India and Bangladesh it has also been used for its antibacterial activity.

This plant stated to quite toxic and hazardous to human and animals. The clinical features recognized in the human include depression, dizziness, fever, nausea, bloody diarrhea, irregularity of heart-beat, weakened pulse, paralysis, loss of consciousness, and death through heart failure. In pharmacy, the fresh or dried leaves, an infusion, decoction, plaster or salve made from the leaves; the powdered bark or a decoction of the bark; a paste made from the roots, and the dried flowers are used. It used to provoke menstruation,

as an abortivum, and as an antispasmodic in treatment of angina pectoris. As an external medicine it used against all kinds of skin diseases [3]. Cure of diabetic rats with glimepiride and *Nerium oleander* extract presented protection in terms of lipid profile, growth rate and renal function, indicating their antidiabetic potential [4].

Cardiac glycosides designated were the three supreme polar glycosides existing in the leaves of *N. oleander* and recognized as strosposide, neritaloside, and odoroside H. These glycosides had been formerly isolated from the kernels of *X. oleander* [5]. While oleandrin is a potent inhibitor of human malignant melanocyte proliferation, it is not toxic to normal human cells. In fact, it shows that many types of human malignant cells, but not normal human cells, are growth inhibited by extracts of *N. oleander* [6].

Patient with a potentially lethal ingestion of *Nerium oleander* leaves treated with an infusion of digoxin-specific Fab antibody fragments. Efficacy of this treatment suggested by acceleration of significant bradycardia following the administration of the Fab fragments. In addition, the patient may spared more significant toxicity by the binding of free or tissue-bound glycoside. The role of this treatment cannot be distinguished from the beneficial effects of standard gastrointestinal decontamination and supportive care. With no significant side effects reported, digoxin-specific Fab antibody fragments represent a reasonable therapeutic intervention in management of serious oleander glycoside toxicity [7].

The effectiveness of *Nerium oleander* plant extracts Anvirzel™ to inhibit HIV-1infection. Oleandrin is the major pharmacologically-active part of this aqueous extract of *Nerium oleander*. Unlike current widely used anti-HIV reagents such as AZT that limit virus production by inhibition of viral replication, treatment with Anvirzel™ resulted in production of virus progeny with significantly impaired ability to infect target cells. This novel anti-HIV effect of Anvirzel™/oleandrin observed against both T cell-tropic and macrophage tropic strains of HIV-1. Studies to identify the active components in Anvirzel™ revealed that the CG-enriched fraction containing oleandrin was important for the observed anti-HIV effects. Oleandrin is known for its effectiveness in inducing apoptotic lysis of specifically tumor cells but not normal cells. However, the current study is the first to show the anti-HIV efficacy of oleandrin. Investigation into the underlying mechanism of reduction in infectivity of the progeny virus without changes in the total amount of virus produced following treatment with either Anvirzel™ or oleandrin,

revealed significant reduction in concentration of viral envelope protein gp120 [8].

Although the plant is very poisonous the median lethal dose in the animal is unknown except recorded the lethal dose in rat as 1 g/Kg body weight. showed the lethal dose of the green oleander leaves for cattle and horse is 0.005% of the animals body weight and 157.37 mg/kg body weight for rabbits. Horses given 40 mg/kg body weight of green oleander leaves via nasogastric tube consistently developed severe gastrointestinal and cardiac signs of poisoning [9].

Study done by Al-Farwachi M.I., *et al.* showed that, in rabbits subcutaneously injected with *Nerium oleander* aqueous leaf extract. The clinical signs, postmortem changes, hematological and biochemical changes were; The live animals showed nervous signs in the second days after treatment as crying, ataxia, abdominal respiration, also to a significant increase in body temperature and loss in the body weight then all animals die during 4 -5 day. The postmortem changes included hemorrhages, and congestion in all organs particularly in the subcutaneous tissue. Hematological changes including increase in the packed cell volume and hemoglobin concentration, and erythrocytic count and leukocytosis with neutrophilia and lymphopenia. Significant increase in the aspartate and alanine aminotraferease activities, serum sodium and potassium ions, and inhibition in blood cholinesterase activity in both erythrocytes and plasma in 2 and 24 hours after injection as compared to the values in animals before injection.

The infection by COVID-19 (SARS-CoV-2) has taken on proportions of pandemic characteristics. In the Chinese population, studies have reported presence of leukopenia on hospital admission, basically at the expense of moderate to severe lymphopenia and mild thrombocytopenia [10].

Overall goal

To introduce safe, cheap, accessible and long persistent vaccine to covid.19,to return life as it's before pandemic crisis.

Study

The study will involve6 male rabbits of local breed, 1–2 year age, 900–1500 g body weight. *Nerium oleander* fresh green leaves will be collected in Atbara city in autumn. Fresh plant material washed with distilled water. A 500g measure of the plant material w cut

into small pieces and grind in a waring blender with 500 ml of 10 mM potassium phosphate buffer (PH 7.2). The sab obtained and will be pressed through cheesecloth and will centrifuged at 10.000 xg for 1 hour. The supernatant fluid will be separated and will be sterilized by filtration through nitrocellulose membrane (pore size 0.22 Mm) obtaining a clear solution, dried plant materials by lyophilization sterile extract stored at -20C0 until used.

Each rabbits subcutaneously injected with aqueous leaves extract of *N. oleander*. The first dose will be 150 mg/kg. The differences between each dose will be 25 mg/kg body weight. Rabbits will be observed continuously after injection for 2 hours and within 24 hours.

5 ml of blood collected under antiseptic conditions, from each rabbit After 11 days of injection of aqueous leaves extract of *N. oleander* then serum separated under sterile conditions.

50µl of serum obtained from each rabbit included will be added to 50µl of whole blood from active COVID.19 patient, the result of the reaction will be read under microscope and interpreted.

0.1 ml of blood from confirmed COVID.19 patient injected subcutaneously to each rabbit in day 11th from injection of leaves extract and follow each rabbit with close monitoring for 2 weeks.

Conclusion

Nerium oleander aqueous leaf extracts as a possible source of COVID.19 vaccine is an effective immunization method for the pandemic.

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