

Vodka Vs Vaccine- A Contradiction

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ABSTRACT: Sputnik v, the first registered vaccine against covid-19, is being discovered by The Gamaleya National Center of Epidemiology and Microbiology recently. Though the discovery of this vaccine is not yet so popular but may give some sunshine in our human society to get out from this running pandemic situation. Before the vaccination, in a press release, Russian official demanded to stop take alcohol during vaccination. This is a strong contradictory topic. Some research study shows that consumption of alcohol is somewhat favorable during covid-19 and in the other hand it goes against. This paper gives a small discussion on the title topic on the basis of some conflict explanations.

Keywords: Alcohol, Covid-19, pH, Vaccine

I. INTRODUCTION AND DISCUSSION

“Russians will have to refrain from visiting crowded places, wear face mask, use sanitizers, minimize contact and refrain from drinking alcohol or taking immunosuppressant drugs”, -Russian deputy prime minister Tatiana Golikova said in a interview to TASS news Agency recently. Russian officials advised the people of Russia to avoid alcohol for two months after taking Sputnik v corona vaccine. From the declaration of Golikova, it was clear to all of the public that he just decided to take a precaution from covid-19. But the curiosity arises when the intake of alcohol is advised to avoid. Most of the strong drinking alcohols contain more than 40% alcohol (like vodka). PH of the drinking alcohols depends on the percentage of alcohol present in that solution.

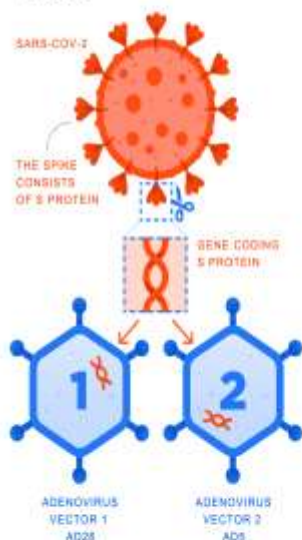
Greater percentage (strong) reveals higher PH (~6-8) [1]. From the study of Garai et.al paper [2] it was known that at pH range 5.5-6.5 the SARS-coV-2 reside in active state and above that pH the dead state is observed, that means some basic substances such as alcoholic sanitizer, bicarbonate can be used as the protective agents from the infection of covid-19. Thus new controversy arises that if anyone takes strong drinking alcohol, expected that it will fight against covid-19 but the statement of Russian officials said that during vaccination consuming alcohol should be stopped.

Before the discussion of role of drinking alcohol on the efficiency of sputnik v vaccine, we should focus on description of that vaccine, how it develops antibody and percentage of efficiency. Sputnikvaccine.com demanded that it is the first discovered vaccine based on well-studied adenoviral vector-based platform. According to the Dr. Sanchari Sinha Dutta (Feature writer, physiology, neurology), adenoviruses are consider as excellent vector for delivering target antigens to mammalian hosts because of their capability to induce both innate and adaptive immune system. Recently, adenovirus- based vaccines are used against a wide variety of pathogens, including HIV, plasmodium falciparum. This same technique has been introduced in sputnik v vaccination process. Adenoviruses are consisting of double-strand DNA viruses (genome size: 34-43 kb; virion size: 70-90 nm). Action of sputnik v vaccine is same like these adenoviruses and the graphical representation is shown below (pic courtesy, Gameleya center, RDIF, 2020).

Two-vector vaccine against coronavirus

Vector creation

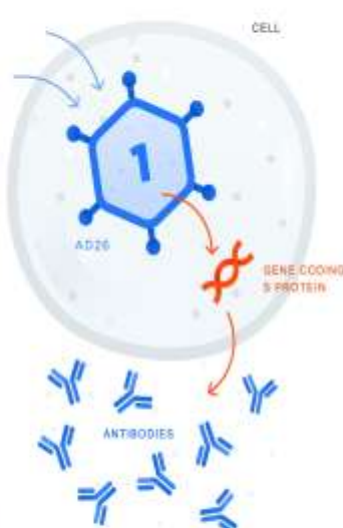
A **vector** is a virus that lacks a gene responsible for reproduction and is used to transport genetic material from another virus that is being vaccinated against into a cell. The **vector** does not pose any hazard to the body. The vaccine is based on an adenoviral vector which normally causes acute respiratory viral infections.



A gene coding **S protein** of SARS-COV-2 spikes is inserted into each vector. The spikes form the "crown" from which the virus gets its name. The SARS-COV-2 virus uses spikes to get into a cell

First vaccination

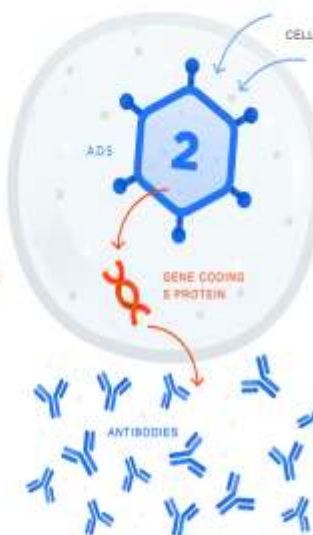
Vector with a gene coding **S protein** of coronavirus gets into a cell



The body synthesizes **S protein**. In response, the production of **immunity** begins

Second vaccination

Repeated vaccination takes place in 21 days



The vaccine based on another adenovirus vector unknown to the body boosts the immune response and provides for long-lasting immunity

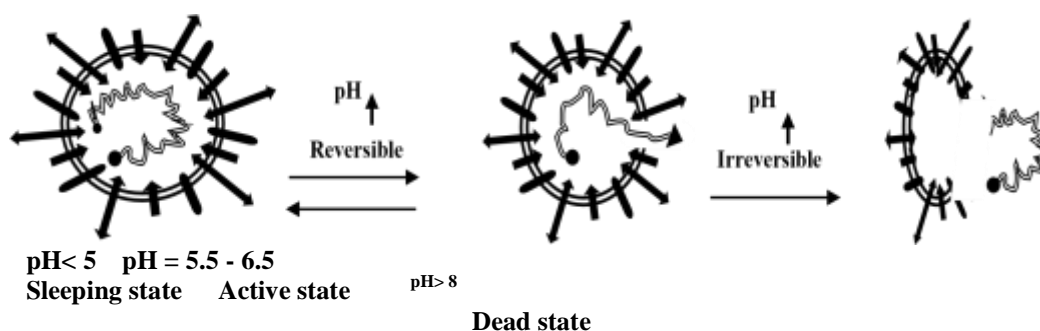
The use of two vectors is a unique technology of the Gamaleya Center making the Russian vaccine different from other adenovirus vector-based vaccines being developed globally

Source: Gamaleya Center, RSCF, 2020

Table. The pH and Alcoholic Percentage of Commercial Wines Used in this Study [1].

Brand Name	Classification	Manufacturer	Alcohol (%)	pH
Majuang Mosel	White wine	Moselland eG (Germany)	8.5	3.24±0.01
Solatio d'Asti	Moscato	AZ AGR.ROBE RTO SAROTTO (Italy)	5.0	3.14±0.01
Gancia Moscatod'Asti	White wine	GANCIA (Italy)	5.5	3.02±0.01

Colle Cavalieri Trebbiano D' abruzzo	White wine	CANTINA TOLLO S.C.A (Italy)	12.0	3.43±0.02
White wine average				3.21± 0.05
G7 Gabernet Sauvignon	Red wine	VICAR S.A (Chile)	13.0	3.54±0.01
Gato Negro Cabernet Sauvignon	Red wine	Vina San Pedro S.A (Chile)	13.5	3.52±0.01
G7 Merlot	Red wine	VICAR S.A (Chile)	13.0	3.50±0.00
Sinfania	Red wine	CAROLINA WINE (Chile)	11.5	3.43±0.01
Mogen David CONCORD	Red wine	FL Korea (USA)	11.0	3.26±0.01
Red wine average				3.45±0.00
Total average				3.34±0.19



Schematic presentation of the corona virus structures and different states with pH changes [2]. J.G. Smith et al [3] tried to find a correlation between adenovirus injection and un-coating with PH-variation. They exactly could not find relation but somewhat nodded their head along with low pH range i.e., in acidic pH Adv favors their un-coating process. Though from gmeleya center it was not clearly explained the roll of PHwith the insertion of Adv vaccine but after variousliteration survey it may be concluded that at few PH (<=5) [4], adenoviruses are more stable. Now the topic of discussion is how alcohol (Vodka) affects the immune system of our body. Clinical science has long observation that with excessive alcohol consumption the health undergoes impairedness with the susceptible of various diseases such as pneumonia, liver cancer etc. In the other words, excessive alcohol consumption do the immune system deprives [5]. But from the article of J. Romeo et al [6] it was known that low to moderate consumption of

alcohol is acceptable for healthy tissue and immunity not dismissed.

Vodka was named as nothing but a neutral spirit as the range of neutral pH lies between 6.0 and 7.0 [7] but there are varieties of vodkas are available in market with different pH values. Generally pH of low rated vodkas is low because to give a neutral taste citric acid are allowed to mix and for that reason pH runs 4.0[8]. From the given reference it was known that better quality of premium type vodkas show higher pH. Titomirov vodka has a pH of 8.2; Vodka Couture has a pH of 8.88 [9].

II. CONCLUSION

From the discussion, we have observed that with the increase of amount (percentage) of alcohol in drinking alcohol, pH increases and with the increases of pH (~8), corona virus stay in dead state i.e., it can be accepted that drinking vodka is good for fighting against Cov-19. But next issue arises: with the consumption of alcohol, immunity

decreases **and favors** the attack by influenza viruses. SARS-Cov-2 is also an influenza virus. Thus this is conflict whether one will intake or not vodka. Again during vaccination pH study is also an important part. With the various literature surveys, it was observed that low pH is feasible for vaccination i.e., consumption of alcohol should be minimized to get a concordance result of vaccination.

at <http://www.rusmonaco.fr/index.php/item//650>.

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