



DOW UNIVERSITY'S RESEARCH TEAM ACHIEVE A SIGNIFICANT BREAKTHROUGH IN THE FIGHT AGAINST COVID19

Karachi: Pakistani scientists' achieve a significant breakthrough in the fight against Covid19, Dow University's research team has prepared intravenous immunoglobulin (IVIG) with plasma obtained from recovered patients of Corona virus through which COVID-19 victims can be treated. Vice Chancellor Prof. Dr. Mohammed Saeed Quraishy called it a very important breakthrough in the war against Covid19.

This way of Treatment is a safe, low risk and highly effective against Coronavirus. Through this method, Immunoglobulin is prepared after separation of antibodies found in the blood of a recovered patient from the corona. This method is considerably different from plasma therapy and it should be noted that the treatment by hyper immunoglobulin (H-IVIG) is approved by the US Federal agency, Food and Drug Administration (FDA), for normal conditions. Plasma therapy, on the other hand, is only allowed in emergencies due to its side effects. The Dow University research team led by Dr Shaukat Ali has developed this H-IVIG after days of continuous hard work, given the crisis situation.

The team was able to collect first blood sample in March 2020 and managed to isolate antibodies chemically, purified it and later concentrated these antibodies using the ultrafiltration techniques that remove the remaining unwanted materials from the final

product. This is the first global report of isolation, formulation and safety demonstration of immunoglobulin purified from recovered COVID19 patient and can be a ray of hope in this time of crisis when the whole nation expects national researchers to come forward and serve the nation.

The method is also a type of passive immunization but uses purified antibodies rather than the whole plasma. The treatment is considered safer and more effective than plasma transfusion as it does not carry the undesired component of blood like plasma proteins, potential bacterial and viral pathogens. Such purified antibodies are commercially available globally against diseases like tetanus, rabies, Influenza and hepatitis. The same strategy has been effectively used in the time of other viral epidemics like MERS, SARS and EBOLA.

The team used blood donated by recovered COVID19 patients to purify antibodies, capable to neutralize corona virus. Laboratory testing and safety trial of the formulated product (experimental vials) in animals have been successful. The Vice chancellor Professor Mohammed Saeed Quraishy has assigned task to clinicians at Dow hospital to team up with researchers to devise a strategy for fulfilling ethical and regulatory requirements for trials.

The lead researcher Dr. Shaukat Ali is principal of Dow College of Biotechnology and other team

members included Dr. Shobha Luxmi, Syed Muneeb uddin, Mir Rashid Ali, Ayesha Ali, Mujtaba Khan, Fatima Anjum, Dr. Sohaib Tauheed. The team appreciated the guidance and extraordinary support from the Vice Chancellor and said they are determined to carry their achievements forward. Their drive to collect further blood donations is continued and in parallel they are working on scaling-up their production process.

This is a major step towards international efforts for controlling COVID-19 disease mortality. Already six world renowned multinational companies have joined hand to proceed in the similar direction to produce IVIG from recovered patients; in this regard Dow University has taken lead in developing the first local IVIG against the strain causing COVID-19 disease in Pakistan. It has already been shown earlier that COVID-19 strain prevalent in Pakistan has a few mutations, hence it is expected that the local IVIG against local virus strain will be very useful and efficacious.

Dow University of Health Sciences, Pakistan has lead the efforts against the novel Corona virus COVID-19 by first isolating the SARS-COV-2 virus for genome sequencing, then discovering human genes resisting the/ virus, and now has isolated and purified the antibodies composed of Immunoglobulin's fraction of the plasma of the recovered patients.