COVID-19

CONSOLIDATED REGIONAL AND GLOBAL INFORMATION ON ADVERSE EVENTS FOLLOWING IMMUNIZATION (AEFI) AGAINST COVID-19 AND OTHER UPDATES

WASHINGTON, D.C.
Updated on 11 February 2021

OFFICIAL REPORTS FROM PHARMACOVIGILANCE PROGRAMS

ARGENTINA

- As of 9 February 2021, 436,269 doses of the Sputnik V vaccine had been administered.
- 16,455 adverse events following immunization (AEFI) were reported (3.8%), 99.5% of them (16,372) mild or moderate.
- The most common reported events are fever with headache and/or myalgia, headache, and/or myalgia.
- 84 serious cases (0.5%) were hospitalized and recovered.

See: https://bancos.salud.gob.ar/recurso/sexto-informe-de-seguridad-en-vacunas

CANADA

- As of 29 January 2021, 937,338 doses of the Pfizer-BioNTech and Moderna vaccines had been administered.
- 480 AEFI (0.051% of administered doses) were reported. Of these, 68 were considered serious (0.007%).
- The adverse events most reported were reactions at the injection site, parestesia, itching, hives, headache, hypoesthesia, nausea, and anaphylaxis.
- 91% of the events were reported in women.

See: https://health-infobase.canada.ca/covid-19/vaccine-safety/

CHILE

- Following administration of 8,648 doses of the Pzifer-BioNTech vaccine, 171 AEFI were reported.
- Of these, 165 (96.5%) were classified as non-serious; six were considered serious and required hospitalization.
- The most commonly reported clinical manifestations are the same as those described among the adverse events observed in clinical trials of the vaccine: pain at the injection site, headache, fatigue, and fever.

See: https://www.ispch.cl/wp-content/uploads/2021/01/Informe-estadistico-ESAVI-asociados-a-vacuna-SARS-CoV-2_VF2.pdf

COSTA RICA

- As of 28 January 2021, the National Center for Pharmacovigilance (known in Spanish as CNFV) had received a total of 356 reports of AEFI (84 men and 272 women) related to the Pfizer-BioNTech vaccine.
- The most common side effects are headache, pain at the injection site, mild fever, body or muscle pain, chills, tiredness, and rash.

See: http://bit.ly/3tPBogH

MEXICO

- As of 7 February 2021, 713,517 doses of the Pfizer-BioNTech vaccine had been administered.
- As of the same date, 6,269 AEFI had been reported (0.88% AEFI/administered doses), 36 of them serious. Of the latter, 34 were discharged and 2 remained hospitalized.

See: https://www.gob.mx/salud/prensa/version-estenografica-conferencia-de-prensa-informe-diario-sobre-coronavirus-covid-19-en-mexico-263437?idiom=es

SPAIN

- As of 12 January, 494,799 people in Spain had been vaccinated with the Pfizer-BioNTech vaccine.
- 374 reports of adverse events were received.
- The most common ones were related to general disorders (fever, discomfort), central nervous system (headache, dizziness), and digestive system (nausea, diarrhea).
- The majority of cases were women (83%) and people between the ages of 18 and 64 (67%).
- During the period discussed in this report, four cases were identified that met the criteria for anaphylaxis.

See: http://bit.ly/3pbinSi

UNITED STATES

US Centers for Disease Control and Prevention (CDC) Panel

More than 23.5 million doses of the Pfizer-BioNTech and Moderna vaccines have been administered in the United States and very few serious adverse events have been observed. Reported deaths in people who received the vaccines have not been linked to them. The most common symptoms are pain at the injection site, fatigue, headache, and muscle pain. Fifty (50) cases of severe allergic reactions (anaphylaxis) have been reported for the Pfizer-BioNTech vaccine and 21 cases for Moderna. It should be noted that 94% of cases of allergic reactions linked to the Pfizer-BioNTech vaccine are women, and 100% for Moderna.

Source: CDC Panel: No COVID-19 Vaccine Safety Surprises. WEBMD Health News. 27 January 2021.

GENERAL COMMENT

It is worth noting that in countries where the gender of people with adverse events has been specified, the vast majority are women; for example, in Costa Rica, 76% are women; in Mexico, 79%; and in Spain, 83%. However, there is a need to investigate possible explanations of these trends (e.g. differences in gender distribution among vaccinated groups).

NEW STUDIES AND DEVELOPMENTS

Scientists develop COVID-19 nasal vaccines

Several groups of scientists are developing experimental vaccines for nasal administration. The objective is to promote the development of IgA antibodies, protect the mucosa of the respiratory tract, and prevent infection by the virus. Among other developments:

- Researchers from the University of Lancaster (UK) have developed a nasal spray vaccine based on an avian virus (Newcastle Disease Virus—NDV) that produces SARS-CoV-2 virus peak proteins to generate an immune response to COVID-19. Animal trials have showed sufficient increase in antibodies and T cells to neutralize the virus. A significant reduction in lung disease, inflammation, and clinical disease was also noted in vaccinated rodents. Immunization of the upper respiratory tract may prevent the spread of the virus; however, clinical studies to verify its safety and efficacy have not yet been conducted.

  Sources:

  Scientists developing Covid-19 vaccine nasal spray. Lancaster University. 13 January 2021.

  First patient dosed with COVI-VAC, an intranasal COVID-19 vaccine candidate. European Pharmaceutical Review. 12 January 2021.

- Scientists at the University of Washington (St. Louis) have developed a nasal vaccine against the SARS-CoV-2 virus that can be administered through the nose in a single dose and that is effective in preventing infection in mice susceptible to COVID-19. To develop this candidate vaccine, researchers inserted coronavirus peak protein into an adenovirus. In addition, this new vaccine incorporates two mutations in the peak protein, stabilizing it in a specific way to promote the formation of antibodies. Researchers note that they obtained strong protection against COVID-19 infection in the cells of the inner lining of the nose and upper airways by challenging immunized animals.
- Source: A single-Dose Intranasal ChAd Vaccine Protects Upper and Lower Respiratory Tracts against SARS-CoV-2. Hassan et al., 2020, Cell 183, 169–184. October 1, 2020 a 2020 Elsevier Inc. https://doi.org/10.1016/j.cell.2020.08.026

Use of vaccines in children and adolescents

Pfizer-BioNTech and Moderna are in the process of conducting clinical studies in children and adolescents (Moderna from 12 to 17 years old and Pfizer-BioNTech from 12 to 15 years old).

Crescer magazine reported that the vaccine developed by China National Biotec Group (CNBG), a subsidiary of Sinopharm, is expected to be approved in March 2021 in China, for use in children and adolescents between the ages of 3 and 17.

Sources:

Fauci: Vaccines for kids as young as first graders could be authorized by September. MPR News. 11 February 2021.

Vacina da Sinopharm pode ser liberada para uso em crianças antes de março. Crescer Online. 17 February 2021.

Combined vaccines

Researchers in the United Kingdom have begun a study in which they combine two COVID-19 vaccines in a single vaccination. It is hoped that this will enhance the immune response and, in particular, that this will solve the logistical problems posed by the need to have the same vaccine for the corresponding boosters. In the study, the AstraZeneca and Pfizer/BioNTech vaccines will be administered in different orders and with two dosing intervals, four and 12 weeks apart; 820 participants over the age of 50 will be recruited.

Source: Astra, Pfizer COVID vaccines to be combined in Oxford Trial. Suzi Ring. Bloomberg. 3 February 2021.

Oxford/Astrazeneca has also reported that it will begin studies combining its vaccine with Sputnik V.

Source: AstraZeneca to test combination of AZD1222 and Sputnik V vaccines. European Pharmaceutical Review. 14 December 2020.

IMPACT OF NEW SARS-CoV-2 VARIANTS

With regard to variants of the SARS-CoV-2 virus, the Centers for Disease Control and Prevention (CDC) reports:

1. variant B.1.1.7, initially identified in the United Kingdom in 2020;
2. variant B.1.351 (501Y.V2), detected in South Africa;
3. variant P.1, from Brazil.

These variants could spread more rapidly and easily, increasing the number of cases globally. To date, studies suggest that the variants may be recognized to some degree by the antibodies generated by the authorized vaccines, but further study is needed.

See: https://espanol.cdc.gov/coronavirus/2019-ncov/transmission/variant.html

The impact of circulating variants on vaccine effectiveness still needs to be clarified. The variant of greatest concern is 501Y.V2 (B.1.351), which was first detected in South Africa and is spreading very quickly. Preliminary studies indicate that the Pfizer and Moderna vaccines are less effective against this variant.

Recent results of the Novavax vaccine show 85% efficacy (in mild, moderate, and severe symptomatic cases confirmed by PCR) against the variant circulating in the UK. However, this vaccine was 50% effective in South Africa, where variant 501Y.V2 is circulating.

Moderna has begun work on a new mRNA vaccine containing the 501Y.V2 mutations in its S protein. This new vaccine could be used alone or in a multivalent formulation. Another measure being taken is to supplement immunity with the administration of a third dose of vaccine.

Source: Callaway E, Ledford H. How to redesign COVID vaccines so they protect against variants. Nature 590, 15-16 (2021) https://doi.org/10.1038/d41586-021-00241-6

CONCLUSION OF EVENTS PRESENTED IN PREVISOUS COMMUNICATIONS

Cases in Norway

- On 14 January 2021, 23 deaths were reported in Norway in connection with vaccination in severely fragile older adults.
- By that date, 43,740 people had been vaccinated against COVID-19 in the country, with a significant number of vaccinated residents in nursing homes.
- The WHO GACVS subcommittee met on 19 January to review the available information. It concluded that there is no suggestion of any unexpected increase in deaths in fragile or elderly people, nor anything unusual that would indicate adverse events following administration of the Pfizer-BioNTech vaccine.
- As of 2 February, the number of deaths in the elderly population increased to 53 out of a total of 112,080 vaccinations in the country.
- Older adults have a high risk of death due to severe underlying conditions, meaning that life expectancy in these homes is short.
- On average, about 300 people die each week in long-term care in Norway.

Links:

https://www.fhi.no/en/news/2021/international-interest-about-deaths-following-coronavirus-vaccination/

https://www.who.int/news/item/22-01-2021-gacvs-review-deaths-pfizer-biontech-covid-19-vaccine-bnt162b2

https://bit.ly/3qeQmL1

Sinopharm vaccine trial volunteer in Peru dies of COVID-19-associated pneumonia

Cayetano Heredia University has reported that a volunteer who participated in the clinical study in Peru, with the coronavirus vaccine produced by the Sinopharm Co. Ltd Group, died of COVID-19-associated pneumonia. Following the instructions of the regulatory authority, the case was studied, and it was determined that the participant belonged to the placebo group.

Source: Peru volunteer in Sinopharm vaccine trial dies of COVID-19 pneumonia, university says. REUTERS. 26 January 2021.

PROGRAMMATIC AND LOGISTIC ERRORS AND RELATED ASPECTS

The most common vaccination errors occurring since COVID-19 vaccination began in the United States

The U.S. Institute for Safe Medication Practices (ISMP) has compiled the most common vaccination errors that have occurred since vaccination began in the United States. These errors are summarized below, and recommendations are made to avoid their occurrence.

Source: (Adapted from): Learning from errors with the new COVID-19 vaccines. Institute for Safe Medication Practices. 14 January 2021.

TYPE OF ERROR	VACCINE INVOLVED	DESCRIPTION OF REPORTED ERRORS	POSSIBLE CAUSE	RECOMMENDATIONS
Incorrect dilution.	Especially with the Pfizer-BioNTech vaccine, which requires dilution of the vial contents (0.45ml) with 1.8 ml of 0.9% saline solution.	1 ml used instead of the required 1.8 ml. The undiluted contents of the vial were injected.	Lack of knowledge about the conditions of vaccine use.	Ensure that specific fact sheets for each vaccine are made available to health care staff. Properly train staff. Related links: Pfizer https://bit.ly/2MFyFFU Moderna https://www.fda.gov/media/144638/download
Administration to a non-eligible person.	Moderna vaccine.	The vaccine was given to a 17-year-old, but it is indicated for age 18 and over.	Confusion with the indications for the Pfizer BioNtech vaccine. Lack of knowledge about the indication for the vaccine used.	Establish the differences between the different types of available COVID-19 vaccines. Before administration, check the selected type of vaccine, the person's age, the dose, and the administration route.
Error in the interval between doses.	Pfizer-BioNTech vaccine Moderna vaccine.	Poor planning of the date of the second dose.	Lack of knowledge or confusion regarding the immunization scheme for the vaccine used.	Check the characteristics, dosage, and immunization scheme for each vaccine before use.

Confusion with another drug.	Moderna vaccine.	44 people 75 years of age and older received a monoclonal (casirivimab) instead of the vaccine.	Similar box and vials for both products. Inappropriate storage of vaccines along with medicines.	Comply with appropriate vaccine storage standards (separation of medicines and other items). Link of interest: https://bit.ly/2Z2ZXIG
Handling errors.	Various vaccines.	Waste of doses.	Use of syringes not suitable for the volume to be administered.	Have the right syringes for the dose of each vaccine. A 1 mL syringe should be used for 0.3-mL doses (Pfizer) and 0.5-mL doses.

Vaccination of people with COVID-19 infection

Due to the serious health risks associated with COVID-19 and the fact that reinfection with the virus is possible, people who have already been infected should also be vaccinated.

If monoclonal antibodies or convalescent plasma have been received in treatment, the person should wait 90 days before receiving a COVID-19 vaccine. If the person is not sure, he/she should consult with his/her health care provider about which treatment they received.

It is not yet known how long a person is protected from getting sick again after recovering from COVID-19. It is rare for people who have had the disease to re-contract it within 90 days of recovering from the first infection.

See: https://www.cdc.gov/coronavirus/2019-ncov/vaccines/faq.html

Use of vaccines in older adults

There are discussions in Europe about the AstraZeneca vaccine and the authorization of its use in people over age 65.

Germany, France, Poland, and Sweden have decided not to authorize its use in this population, stating that clinical studies have not provided sufficient information on its efficacy in older adults. Belgium and Italy will use the vaccine only in people under 55 years of age.

Sources:

Torjesen Ingrid. Covid-19: AstraZeneca vaccine is approved in EU with no upper age limit BMJ 2021; 372:n295 doi: https://doi.org/10.1136/bmj.n295

France, Poland, Sweden latest EU countries to rule out AstraZeneca jab for elderly. EURO NEWS. 3 February 2021.

Belgian regulators advise against giving AstraZeneca Covid vaccine to over-55s. The Guardian. 3 February 2021.

Authorization of the Pfizer-BioNTech vaccine in 6-dose formulation

On 28 December 2020, the U.S. Food and Drug Administration (FDA) updated its letter of authorization to health care providers, as well as frequently asked questions about the number of doses in the Pfizer-BioNTech vaccine vial. This resolution is consistent with prior notice from the FDA that it was acceptable to use all doses that could be

obtained from the vial (six or even possibly seven). However, since the vaccine has no preservative, it is critical that any remaining amounts in the vial be discarded six hours after reconstitution.

See: https://www.fda.gov/media/144413/download

It is important to remember that more than five doses can be obtained by using low dead-volume syringes and needles (with minimal space between the liquid and the plunger of the syringe or needle when the piston is inserted).