VacCiencia

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EN ESTE NÚMERO

VacCiencia es una publicación dirigida a investigadores y especialistas dedicados a la vacunología y temas afines, con el objetivo de serle útil. Usted puede realizar sugerencias sobre los contenidos y de esta forma crear una retroalimentación que nos permita acercarnos más a sus necesidades de información.

- Resumen de la información publicada por la OMS sobre los candidatos vacunales en desarrollo contra la COVID-19 a nivel mundial.
- Noticias más recientes en la Web sobre vacunas.
- Artículos científicos más recientes de Medline sobre vacunas.
- Patentes más recientes en USPTO sobre vacunas.

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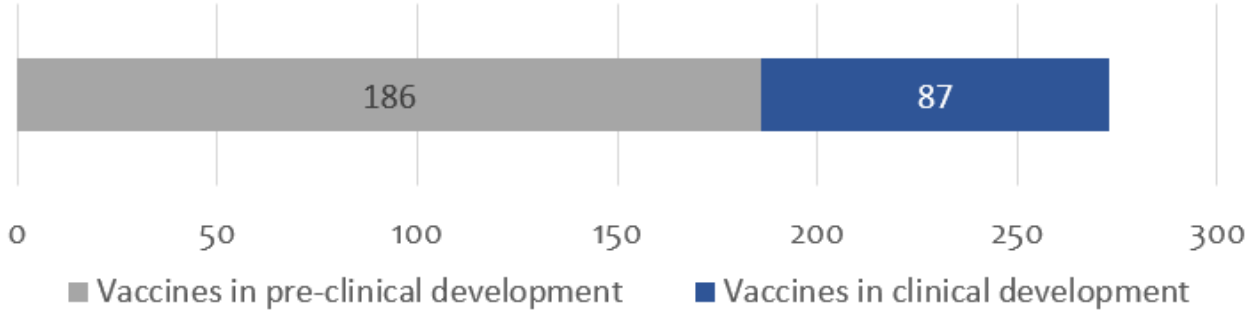
Resumen de la información publicada por la OMS sobre los candidatos vacunales contra la COVID-19 en desarrollo a nivel mundial

Última actualización por la OMS: 9 de abril de 2021.

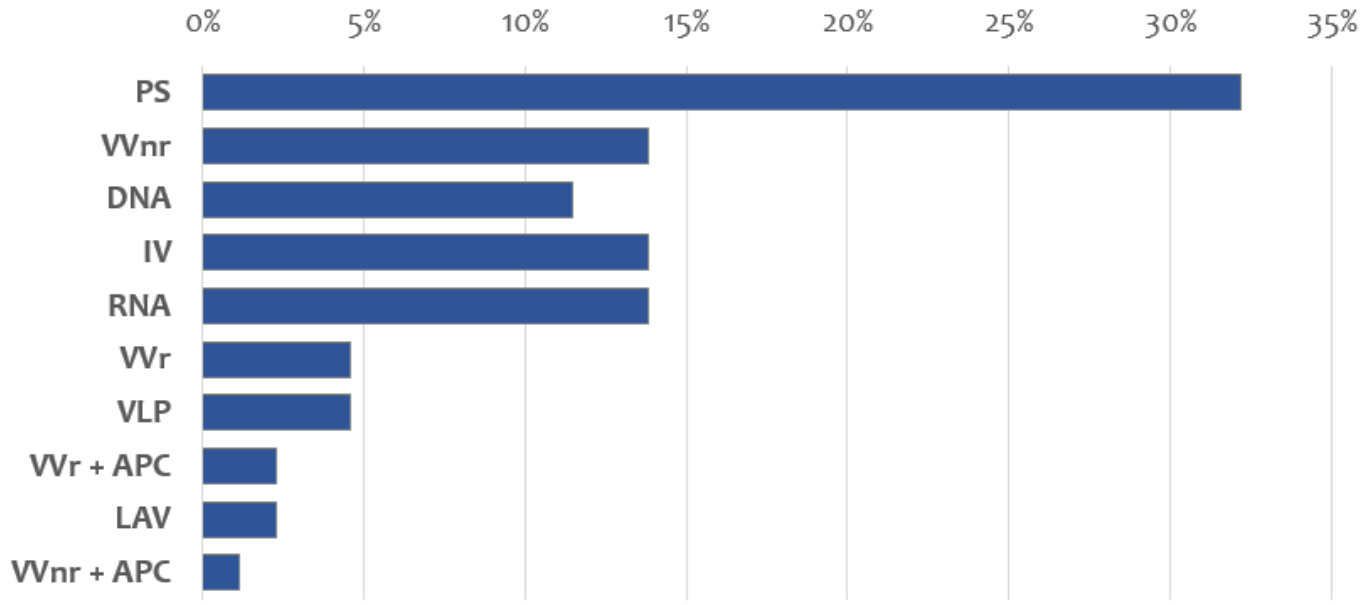
Fuente de información utilizada: World Health Organization | R&DBlueprint Powering research to prevent epidemics

87 candidatos vacunales en evaluación clínica y 186 en evaluación preclínica.



Candidatos vacunales en evaluación clínica por plataforma

Platform		Candidate vaccines (no. and %)	
PS	Protein subunit	28	32%
VVnr	Viral Vector (non-replicating)	12	14%
DNA	DNA	10	11%
IV	Inactivated Virus	12	14%
RNA	RNA	12	14%
VVr	Viral Vector (replicating)	4	5%
VLP	Virus Like Particle	4	5%
VVr + APC	VVr + Antigen Presenting Cell	2	2%
LAV	Live Attenuated Virus	2	2%
VVnr + APC	VVnr + Antigen Presenting Cell	1	1%
		87	



CUBA

Candidatos vacunales más avanzados a nivel global

Desarrollador de la vacuna/fabricante/país	Plataforma de la vacuna	Fase
Sinovac/China	Virus Inactivado	4
Wuhan Institute of Biological Products/Sinopharm/China	Virus Inactivado	3
Beijing Institute of Biological Products/Sinopharm/China	Virus Inactivado	3
University of Oxford/AstraZeneca/Reino Unido	Vector viral no replicativo	4
CanSino Biological Inc./Beijing Institute Biotechnology/China	Vector viral no replicativo	3
Gamaleya Research Institute/Rusia	Vector viral no replicativo	3
Janssen Pharmaceutical Companies/Estados Unidos	Vector viral no replicativo	3
Novavax/Estados Unidos	Subunidad proteica	3
Moderna/NIAID/Estados Unidos	ARN	4
BioNTech/Fosun Pharma/Pfizer/Estados Unidos	ARN	4
Anhui Zhifei Longcom Biopharmac./Inst. Microbiology, Chinese Academy Sciences	Subunidad proteica	3
CureVac AG/Alemania	ARN	3
Institute of Medical Biology/Chinese Academy of Medical Sciences	Virus inactivado	3
Research Institute for Biological Safety Problems, Kazakhstan	Virus inactivado	3
Zydus Cadila Healthcare Ltd./India	ADN	3
Bharat Biotech/India	Virus Inactivado	3
Sanofi Pasteur + GSK/Francia/Gran Bretaña	Subunidad proteica	3
Instituto Finlay de Vacunas/Cuba	Subunidad proteica	3
Federal Budgetary Research Institution State Research Center of Virology and Biotechnology "Vector"/Rusia	Subunidad proteica	3
Center for Genetic Engineering and Biotechnology (CIGB)	Subunidad proteica	3

Candidatos vacunales mucosales en evaluación clínica

Desarrollador de la vacuna/fabricante/país	Plataforma de la vacuna	Vía de adminsitra-ción	Fase
Symvivo/Canadá	ADN	Oral	1
Codagenix/Serum Institute of India	Virus vivo atenuado	Intranasal	1
Vaxart/Estados Unidos	Vector viral no replicativo	Oral	1
University of Oxford	No Dato	Intranasal	1
ImmunityBio, Inc./Estados Unidos	Vector viral no replicativo	Oral	1
Center for Genetic Engineering and Biotechnology (CIGB)/Cuba	Subunidad proteica	Intranasal	1/2
Altimmune, Inc./Estados Unidos	Vector viral no replicativo	Intranasal	1
University of Hong Kong, Xiamen University and Beiging Wantai Biological Pharmacy	No Dato	Intranasal	2
Bharat Biotech International Limited/India	Vector viral no replicativo	Intranasal	1
Razi Vaccine and Serum Research Institute	Subunidad proteica	Intranasal	1
Meissa Vaccines, Inc.	Virus vivo atenuado	Intranasal	1

Noticias en la Web

Cuba y China colaboran para crear "una vacuna de amplio espectro contra muchos coronavirus"

1 apr. La fortaleza de Cuba en los sectores de la biotecnología y la industria farmacéutica ha facilitado que tenga capacidad de crear al mismo tiempo hasta cinco posibles vacunas contra el covid-19, afirma la directora general del Centro de Ingeniería Genética y Biotecnología (CIGB) cubano, Marta Ayala Ávila.

Entre los fármacos anticovid que desarrolla esa nación latinoamericana destacan Soberana, Mambisa y Abdala, cuyos ensayos clínicos avanzan con rapidez y algunos ya se encuentran en la fase III de los experimentos.

"En esta época de la pandemia se han acortado los tiempos para el desarrollo, tanto de moléculas terapéuticas como de candidatos vacunales, bajo el cumplimiento de todas las regulaciones establecidas por las respectivas agencias", debido a que en situaciones así "uno acomoda los cronogramas y estrategias para dar respuesta rápida a la situación", explicó esta especialista.

Proyecto Pan-Corona

La directora del CIGB aclara que los científicos cubanos solo emplearon tecnología y recursos humanos nacionales para crear sus medicamentos, así como anticuerpos producidos en la isla, y que esos fármacos son "susceptibles a ser combinados" con otras vacunas.

Asimismo, Cuba trabaja con China para poner en marcha el proyecto Pan-Corona y lograr otra vacuna contra una nueva cepa del virus SARS-CoV-2, causante del covid-19, una iniciativa cuyo objetivo es lograr un fármaco de amplio espectro contra "muchos coronavirus".

Respecto a las críticas hacia los candidatos vacunales cubanos, Marta Ayala Ávila asevera que no es la primera vez que se intenta desacreditar a La Habana

"cuando tiene algo que mostrarle al mundo": "los enemigos intentan minimizar cualquier logro que tengamos; de hecho, el bloqueo también afecta a las investigaciones científicas, a la biotecnología y al sector farmacéutico" cubanos.

No obstante, esta limitación impuesta por EE.UU. supone un desafío para la comunidad científica de Cuba que, pese a los obstáculos y gracias a la inversión realizada por el Gobierno cubano en educación y recursos humanos, está en condiciones de desarrollar tecnología propia.

El país caribeño tiene "la capacidad productiva y los recursos humanos para desarrollar cinco candidatos vacunales", afirma Marta Ayala Ávila, directora general del Centro de Ingeniería Genética y Biotecnología cubano."

Fuente: RUSSIA TODAY. Disponible en https://cutt.ly/tcTo4TJ

Cuba Produces Medical Equipment To Treat COVID

2 apr. State-owned companies in Havana have unveiled Cuban-made medical equipment used in treating COVID-19.

The companies are producing high-end respirators, reagents and plastic supplies that alongside Cuba's COVID-19 vaccines are allowing the island nation to address health care issues created by the worldwide pandemic.

"The development of medical equipment and technologies allows us to achieve sovereignty in many aspects... and also in the diagnosis of COVID-19," stated José Luis Fernández Yero, founder of Cuba's Immunoassay Center and Advisor to Biocubafarma, on Wednesday.

There are currently 23,168 patients of COVID-19 in Cuba's hospitals.

The first dose of the Phase III study of the Soberana 02 vaccine, have been administered.

The Soberana 02 study was tested by injecting 44,000 people who were joined by 150,000 Cubans in the capital who were included in "intervention studies" to obtain more data on the behavior of the antigen.

The other advanced vaccine under study is Abdala, which is being tested in its Phase III in the eastern city of Santiago de Cuba with 40,000 patients and with another 120,000 volunteers in an "intervention study."

Mambisa, Soberana 01, and Soberana Plus (02), are the other antigens in development but that are in still earlier stages.

Authorities expect Phase III of Soberana 02 and Abdala to be completed in June, which will pave the way for mass immunization on the island of 11-million people.

Cuba has registered some 75,263 cases of COVID-19 and 424 deaths from the virus since the beginning of the pandemic in March 2020.

Fuente: REPUBLICWORLD.COM. Disponible en https://cutt.ly/jcTwnXD

Alérgicos al tiomersal podrán vacunarse con candidatos de Cuba

3 abr. Las personas alérgicas al tiomersal podrán vacunarse con candidatos antiCovid-19 de Cuba, para lo cual ya se producen lotes monodosis sin ese compuesto organomercúrico con acción antiséptica, anunció hoy aquí una autoridad científica.

En declaraciones al diario digital Cubadebate, la directora de Investigaciones del Instituto Finlay de Vacunas (IFV), Dagmar García, dijo que habrá vacunas para todos esos sujetos excluidos de los actuales ensayos clínicos por dicha causa.

Precisó que, como parte del escalado productivo en el Centro Nacional de Biopreparados de la nación caribeña, los últimos lotes con una sola dosis hechos hasta ahora y otros a originar en el futuro, no contendrán tiomersal.

'En el estudio de intervención con Soberana 02 que se aplica a los trabajadores de la salud de La Habana, ya se han usado lotes sin dicho conservante con mercurio', detalló.

La experta señaló que, en el caso de ese candidato, a cargo del IFV y actualmente también en fase III de ensayos clínicos en la capital cubana, las presentaciones multidosis siempre contienen tiomersal.

'Ello sirve como preservo para garantizar la conservación de la esterilidad del bulbo que, necesariamente, será intervenido varias veces para administrar cada una de las dosis', expuso la especialista.

Puntualizó, además, que los primeros lotes monodosis lo contenían, justamente porque pertenecen a una etapa de desarrollo y producciones a baja escala.

De acuerdo con la experta, es frecuente en la industria farmacéutica la presentación de las vacunas en formulaciones de varias dosis, que pueden contener cinco o

10 por cada bulbo, lo cual facilita los grandes programas de inmunización contra enfermedades infecciosas.

Soberana 02 concluyó recientemente la primera etapa de su fase III con la inyección de la dosis inicial a 44 mil 10 voluntarios previstos en el estudio y llegará a otros 150 mil durante el ensayo de intervención controlado.

Por otro lado, la propuesta vacunal Mambisa, del Centro de Ingeniería Genética y Biotecnología de Cuba (CIGB), por ser un spray nasal, no contiene tiomersal.

Con relación al candidato Abdala, la directora general del CIGB, Marta Ayala, confirmó que se trabaja a nivel de escala productiva en vacunas sin tiomersal para etapas clínicas futuras.

Dicho producto, cuyo nombre alude a un poema del Héroe Nacional de Cuba, José Martí, pasa por la fase III con una muestra de 48 mil personas de tres provincias al Oriente del país; y será aplicado en más 120 mil incluidos en estudios intervencionales en La Habana y territorios del centro de esta nación.

Fuente: PRENSA LATINA. Disponible en https://cutt.ly/BcTrEzh

Variantes del coronavirus: por qué la escasa vigilancia del virus en América Latina puede convertirse en un problema global

2 abr. Brasil vive uno de los peores momentos de la pandemia, con un creciente número de contagios y muertes a causa de la COVID-19.

El aumento en los casos en los últimos días se ha atribuido en parte a la propagación de una variante altamente contagiosa del virus, llamada P.1, que se cree que se originó en la ciudad amazónica de Manaos.

Los expertos advierten que lo que ocurre en Brasil es solo un ejemplo de la importancia de rastrear el surgimiento de variantes del virus SARS-CoV-2 en América Latina.

A este rastreo se lo conoce como vigilancia genómica, y, según los expertos consultados por BBC Mundo, es una tarea en la que América Latina está rezagada.

Los especialistas coinciden en que, aunque ha habido avances, en la región es necesario reforzar la vigilancia genómica y advierten sobre el riesgo de no hacerlo a gran escala.

"América Latina necesita una vigilancia genómica fuerte. En la mayoría de los países aún es mínima", escribió en Twitter a principios de marzo la epidemióloga Zulma Cucunubá, especialista en enfermedades infeccionas y salud pública del Imperial College de Londres, en Reino Unido.

"No sabemos qué está pasando con las variantes de SARS-CoV-2 en la región".

¿En qué consiste la vigilancia genómica y cuál es su estado en América Latina?

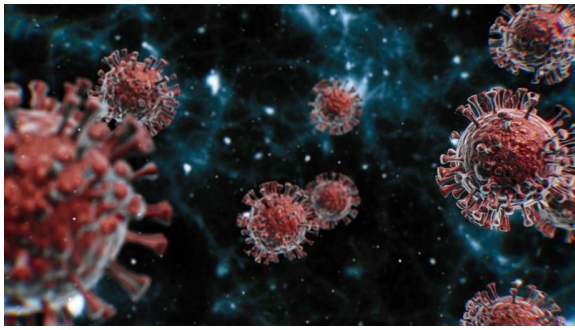
La genética del virus

Cada virus de SARS-CoV-2 tiene un código genético que se expresa en una secuencia de 30.000 letras.

A ese conjunto de letras se lo

conoce como el genoma del virus, y es el que le da las instrucciones para funcionar y transmitirse.

Además, esas letras funcionan como un "archivo histórico de la evolución del virus", como explica Fernando González Candelas, catedrático de genética en la Universidad de Valencia, en España, en un artículo publicado en *The Conversation*.



Cada vez que el virus contagia a una nueva persona existe la posibilidad de que mute, una característica propia de los virus.

Así, los científicos pueden saber que un virus mutó al notar que alguna de las letras de su genoma cambió.

Las mutaciones ocurren todo el tiempo, pero cuando un grupo de virus comparten un mismo conjunto de mutaciones forman lo que se conoce como una variante.

Durante la pandemia se han identificado variantes del SARS-CoV-2 en varias partes del mundo.

Algunas de ellas son lo que técnicamente se conocen como "variantes de preocupación", porque tienen el potencial de ser más contagiosas, provocar una enfermedad más grave o reducir el efecto de las vacunas.

Hasta el momento, se han identificado al menos tres variantes de preocupación:

⇒ La B.1.1.7, identificada por primera vez en Reino Unido

⇒ La B.1.351, identificada por primera vez en Sudáfrica

⇒ La P.1, identificada por primera vez en Brasil

"El virus no es una unidad estática sino que está cambiando", le dice a BBC Mundo Julián Villabona, epidemiólogo molecular en el Centro de modelaje matemático de enfermedades infecciosas de la Escuela de Higiene y Medicina Tropical de Londres.

"Si se le da la oportunidad, va a cambiar de formas que le permitan infectar a más personas o en algunos casos causar una enfermedad más grave".

Rastrear las variantes

Estas variantes se han identificado gracias a que los científicos comparten miles de genomas del virus en una gran base de datos mundial.

Esa base de datos se llama GISAID (siglas de Global Initiative on Sharing All Influenza Data, Iniciativa Global para Compartir todos los Datos de la Influenza, en español).

Su nombre se debe a que originalmente fue creada para vigilar el genoma del virus de la influenza.

Lo que los investigadores hacen en GISAID es depositar las 30.000 letras del virus que infectó a cada persona que logran registrar.

En lo que llevamos de la pandemia, los expertos han aprendido que el SARS-CoV-2 acumula de una a dos mutaciones por mes, según explica Villabona.

Así, la vigilancia genómica debe revisar las 30.000 letras del virus que infecta a cada persona y observar qué cambios ha habido respecto al virus de otras personas.

"La genómica es la única tecnología que nos permite identificar las nuevas variantes que nos preocupan", le dice a BBC Mundo Catalina López Correa, médica especialista en genética y directora ejecutiva de la Red Canadiense de Genómica de covid-19 (CanCOGeN).

"Si no entendemos qué variantes tenemos y cómo se están transmitiendo, tenemos el riesgo de que en algún punto las vacunas no sean eficaces".

Por su parte, Villabona añade que "la vigilancia genómica permite estar atentos a que el virus no cambie en formas que compliquen la situación, y que si está cambiando se puedan activar estrategias para reducir el impacto".

La ecuación es clara: a mayor número de variantes, es posible que aumente el número de contagios; y a mayor número de contagios, mayor probabilidad de que aparezcan nuevas variantes.

La vigilancia en América Latina

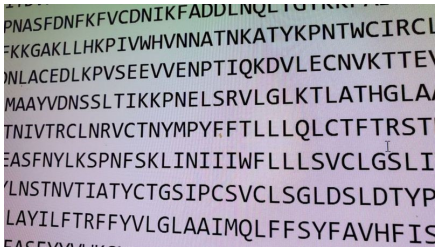
La vigilancia genómica del SARS-CoV-2 en América Latina "está en estado embrionario", en palabras de López Correa.

La experta comenta que Reino Unido, por ejemplo, ha registrado cerca

de 300.000 genomas del virus en GISAID. Canadá ha registrado más de 22.000.

Hasta el 22 de marzo América Latina y el Caribe, en conjunto, había registrado menos de 14.000, según la Red Regional de Vigilancia Genómica de covid-19, que cuenta con el respaldo de la Organización Panamericana de la Salud (OPS).

Al 31 de marzo, GISAID registraba más de 940.000 secuencias del SARS-CoV-2 en su plataforma a nivel global.



López Correa destaca que, en América Latina, países como México y Brasil lideran el número de secuencias registradas, y que en Colombia, Perú y Ecuador el número de genomas reportados va aumentando poco a poco.

La experta, sin embargo, advierte que "vamos lento".

"Creo que en América Latina no estamos siendo muy conscientes de lo importante que es la vigilancia genómica".

Por su parte, Villabona sostiene que el número de genomas reportados desde América Latina es muy bajo respecto al número total de casos de covid-19 en la región, que ronda los 24 millones de contagios.

"En América Latina hay la posibilidad de que existan variantes que no han sido reportadas y que sean responsables de una fracción importante de los casos", dice Villabona.

"Eso no se puede saber, porque no existen los datos genéticos… con ese número de secuencias que tenemos no se puede calcular".

En una rueda de prensa el 23 de marzo, la OPS dijo que está apoyando a los países de América Latina para fortalecer su capacidad de vigilancia del virus, y que uno de sus principales objetivos es ampliar esa red de rastreo con nuevos laboratorios, fondos y asistencia técnica.

Prioridad

Los expertos coinciden en que América Latina tiene a personas capacitadas para hacer una mayor vigilancia genómica.

López Correa, sin embargo, sostiene que "faltan recursos y darle prioridad desde un punto de vista estratégico y político".

La experta indica que la vigilancia genómica es una herramienta importante para tomar decisiones de salud pública como los confinamientos, por ejemplo.

"En este momento la vacunación y la vigilancia son igualmente importantes", dice.

Por su parte, Villabona sostiene que hasta el momento América Latina se ha centrado en vigilar si hay presencia de una variante de otra región, pero que debería hacerse un mayor esfuerzo por saber si una variante del propio continente tiene el mismo efecto.

En Brasil, por ejemplo, fue importante que desde hace unos años se hubiera creado un programa de vigilancia genómica de virus como el del dengue, el zika o la fiebre amarilla.

Según explica Villabona, gracias a que ya existía esa infraestructura, se pudo adaptar para rastrear el genoma del coronavirus.

Finalmente, aunque los expertos insisten en que los gobiernos de cada país prioricen la secuencia genómica a nivel nacional, el tema de la vigilancia debe verse como un asunto de cooperación global.

Si en un país no se hace una adecuada vigilancia de las posibles variantes, se puede volver un problema de salud pública a nivel global.

"Para el virus no hay fronteras", concluye López Correa.

Fuente: BBC NEWS. Disponible en https://cutt.ly/EcNEGy0

Thiomersal-allergic people may be vaccinated with Cuban candidate

3 apr. People allergic to thiomersal may be vaccinated with Cuba´s anti-Covid-19 candidates, for which single-dose batches are already being produced without using such an organomercuric compound with antiseptic action, a scientific authority announced.

Speaking to the Cubadebate digital newspaper, Dagmar García, Research director of Finlay Vaccine Institute (IFV), said that all thiomersal-allergic people will be vaccinated.

She specified that, as part of the productive escalation, latest batches with a single dose will not contain thiomersal.

'In the observational study with Soberana 02 candidate that is today applied to health workers in Havana, a great number of batches have already been used without this organomercuric compound,' García explained.

Plus, García pointed out that, in the case of this candidate (Soberana 02), in charge of IFV and currently in phase III of clinical trials in the Cuban capital, the multi-dose vaccines contain thiomersal.

According to the expert, vaccines in multi-dose formulations are very common in the

pharmaceutical industry, which may contain 5 or 10 for each vial, thus making immunization programs much easier.

Soberana 02 candidate recently concluded its first stage of its phase III by vaccinating 44,010 volunteers and will reach another 150,000 during the controlled observational trial.

Fuente: Prensa Latina. Disponible en https://cutt.ly/ScNIGkj

Cuba y Alemania impulsan cooperación biotecnológica y biofarmacéutica

5 abr. Cuba y Alemania explorarán las posibilidades de cooperación en el sector biotecnológico y biofarmacéutico con la realización el próximo 14 de abril de un foro empresarial virtual, informó hoy el centro ProCuba.

El evento estará organizado por la Cámara de Comercio de Cuba y la Oficina Alemana para la Promoción del Comercio y la Inversión en Cuba, y tendrá presentaciones de empresas e instituciones cubanas del sector.

El foro empresarial estará presidido por BioCubaFarma, y contará con la participación del Centro de Ingeniería Genética y Biotecnología, Cimab S.A., el Instituto Finlay de Vacunas y el Centro para el Control Estatal de Medicamentos, Equipos y Dispositivos Médicos.

De acuerdo con los organizadores, está diseñado para presentar las experiencias y potencialidades del sector biotecnológico y biofarmacéutico cubano.

Será una oportunidad para brindar informaciones de primera mano de los principales

productos contenidos en la Cartera de Oportunidades de Negocios, encaminados a identificar nuevos proyectos y cooperaciones conjuntas a futuro, significó el portal digital del Centro para la Promoción del Comercio Exterior y la Inversión Extranjera (ProCuba).

Según destaca la página web de la Oficina Alemana de Promoción del Comercio y las Inversiones en Cuba, el sector farmacéutico y biotecnológico en Cuba posee una reputación mundial gracias a sus altos estándares de innovación y calidad.

BioCubaFarma, el grupo de empresas de la industria biotecnológica y farmacéutica de la isla caribeña, tiene una presencia internacional consolidada con más de 740 registros sanitarios en más de 50 países, más de dos mil 500 patentes y solicitudes de patentes a nivel mundial y exportaciones a más de 40 naciones.

Los principales productos de su portafolio son los biofarmacéuticos para la prevención y el tratamiento de diversos padecimientos como el cáncer, enfermedades infecciosas y cardiovasculares, diabetes y también para la COVID-19, así como reactivos de diagnóstico y dispositivos médicos.

Las filiales de BioCubaFarma participan en empresas conjuntas con socios extranjeros en China, Singapur, Tailandia, Gran Bretaña, España y también en Cuba, en la Zona Especial de Desarrollo Mariel, añade el portal digital de la Oficina Alemana.

Fuente: Prensa Latina. Disponible en https://cutt.ly/ycMjc5y

La EMA encuentra un posible vínculo entre casos de trombosis y vacuna de AstraZeneca

7 abr. El regulador de medicamentos europeo aconseja registrar "estos inusuales casos de coágulos de sangre" junto con un descenso de plaquetas como un "efecto secundario muy raro", pero mantiene que el riesgo -beneficio de la vacunación es favorable. Su objetivo ahora es completar la evidencia científica sobre esta asociación e identificar posibles grupos de riesgo.

La Agencia Europea del Medicamento (EMA, por sus siglas en inglés) ha concluido que los cuadros de trombosis venosa cerebral, trombosis de la vena esplácnica y descenso de plaquetas observados en pacientes que habían recibido la vacuna de Oxford/AstraZeneca deberían considerarse "efectos secundarios muy raros" de este suero.

Para llegar a esta conclusión, el comité de farmacovigilancia de la EMA (PRAC) ha analizado 62 casos de trombosis de senos venosos cerebrales y 24 de trombosis de la vena esplácnica reportados a la base de datos de la Unión Europea sobre seguir-dad de fármacos, Eudra-Vigilance, 18 de los cuales fueron mortales.

Según señalan, estos extraños casos de trombosis con trombocitopenia (bajada de plaquetas) pueden deberse a una respuesta inmunitaria "activada" por la vacuna, un trastorno atípico similar a la trombocitopenia inducida por heparina. No obstante, el PRAC insiste en que se desconoce si esta es la causa definitiva y en que no se han podido identificar factores de riesgo específicos.

Así, la institución ha recordado a las administraciones sanitarias y a las personas que han recibido esta vacuna que "deben ser conscientes" de la posibilidad de que se produzcan casos muy raros de coágulos de sangre combinados con niveles bajos de plaquetas en las dos semanas siguientes a la vacunación. Como referencia, a 4 de abril se han reportado 169 casos de trombosis venosa cerebral y 53 de trombosis de la vena esplácnica entre 34 millones de personas vacunadas en Reino Unido y la Unión Europea.

Por ello, la EMA aconseja a quienes se hayan vacunado con este suero que busquen asistencia sanitaria urgente si desarrollan algunos de los síntomas de esta combinación de trombosis y trombocitopenia: dificultad para respirar, dolor en el pecho, hinchazón en las piernas,

dolor abdominal persistente, dolores de cabeza intensos y persistentes, visión borrosa y pequeñas manchas de sangre bajo la piel más allá del lugar del pinchazo.

Según Emer Cooke, directora ejecutiva de EMA, "es importante que tanto las personas vacunadas como los profesionales de la salud conozcan los signos y síntomas de estos inusuales trastornos de la coagulación y puedan detectarlos rápidamente para minimizar el riesgo".

"La EMA seguirá supervisando todas las pruebas científicas disponibles tanto sobre la eficacia como sobre la seguridad de todas las vacunas covid-19 autorizadas y emitirá nuevas recomendaciones, si es necesario, sobre la base de pruebas sólidas", ha declarado Cooke.

"Este caso demuestra que nuestro sistema de farmacovigilancia funciona: estos eventos muy raros e inusuales fueron recogidos, identificados, analizados y hemos hecho una clara recomendación con base científica para permitir el uso seguro y eficaz de la vacuna", ha añadido.

Revisión exhaustiva de los casos registrados

El comité de farmacovigilancia de la EMA ha llevado a cabo una revisión exhaustiva de los casos de coagulación sanguínea raros e inusuales en combinación con plaquetas bajas con la ayuda de un grupo de expertos ad hoc que examinó los datos específicos.

Hasta la fecha, la mayoría de los casos notificados se han producido en mujeres menores de 60 años durante las dos semanas siguientes a la inmunización. "No se ha podido identificar ningún factor de riesgo específico, según las pruebas disponibles actualmente. Por ello, no se recomienda ninguna medida concreta para reducir el riesgo", ha continuado Sabine Straus, presidenta del PRAC.

Para la presidenta del PRAC, "aunque la mayoría de los casos se produjeron en personas menores de 60 años y en mujeres, debido a las diferentes formas de uso de la vacuna en los distintos países, el comité no concluyó que la edad y el sexo fueran factores de riesgo claros para estos efectos secundarios tan poco frecuentes". Una posible explicación a este mayor número de reportes es que hay más mujeres que hayan recibido una dosis de este suero: "Suponen en torno al 60 % del total de vacunados", ha indicado.

Seguir investigando durante la vacunación

La presidenta del comité de farmacovigilancia ha asegurado que se llevarán a cabo más investigaciones y análisis al respecto: "El PRAC seguirá evaluando todas las pruebas que estén disponibles sobre esta cuestión mientras continúan las campañas de vacunación".

Pero para completar la evidencia disponible sobre este vínculo de trombosis y vacunas, el PRAC solicita a las instituciones sanitarias de los estados miembros que detallen "tanto como puedan" estos casos en los informes de farmacovigilancia que remiten a la EMA.

"Algunos informes no están tan completos como nos gustaría y esto complica mucho a la hora de encontrar más evidencias sobre estos casos", ha señalado Strauss, incidiendo en que esta recomendación no va dirigida solo a los pacientes inoculados con Oxford/AstraZeneca "sino para todas las vacunas en general. Por favor, reporten los efectos secundarios de la manera más detallada posible".

A este respecto, también se han registrado casos de trombosis de senos venosos en personas inoculadas con otras vacunas: 35 pacientes entre los 54 millones de vacunados con Pfizer/BioNTech, 5 entre los 4 millones de Moderna y 3 entre los 4,5 millones de Janssen. "Ninguna de estas ratios es diferente a lo que se espera en población sin vacunar", ha precisado.

Por otro lado, el jefe del grupo de trabajo de análisis de datos y métodos de la EMA, Peter Arlett, ha precisado que AstraZeneca tendrá que reportar más información sobre su vacuna a la EMA.

"La compañía debe proveer más información de cómo funciona su

vacuna ante los coágulos, revisar datos de ensayos clínicos terminados y en proceso y elaborar estudios epidemiológicos", ha puntualizado Arlett. A su vez, ha adelantado que otras instituciones europeas como la Universidad Erasmus de Róterdam y la Universidad de Utrecht ya están realizando estudios para identificar factores de riesgo asociados a esta vacunación.

Próximas vacunas

Preguntada por el estado de los estudios acerca de posibles vacunas que podrán aprobarse próximamente en la Unión Europea, Emer Cooke, directora ejecutiva de la EMA, ha explicado que están en rolling review (evaluación continua de la vacuna mientras esta se fabrica en paralelo) de los sueros de Sputnik V, Curevac y Novavax.

Sobre la Sputnik V, desarrollada por el Instituto Gamaleya de Rusia, Cooke precisa que la EMA ha comenzado una revisión sobre la manera en la que se han conducido los ensayos clínicos en este país. "Es un procedimiento normal que realizamos para muchas vacunas y medicamentos", ha subrayado.

Por último, sobre las posibles fechas para aprobar su uso en Europa, Cooke no dispone de más información: "No tengo una bola de cristal. No soy capaz de decir cuál de estas tres será la primera".

Fuente: Agencia sinc. Disponible en https://cutt.ly/OcMvHxD

Vacuna de Moderna dura al menos seis meses, indica estudio

7 abr. La protección que brinda la vacuna de los laboratorios Moderna contra el COVID-19 dura al menos seis meses, indica una investigación nueva publicada el martes en el New England Journal of Medicine. El aviso hace eco de lo que la farmacéutica Pfizer dijo la semana pasada sobre su propia vacuna, que funciona de manera similar.

Ambos informes se basaron en pruebas de seguimiento a decenas de personas que recibieron las inyecciones durante los estudios que llevaron al uso de las vacunas. Esos estudios se realizaron antes de que surgieran y comenzaran a extenderse nuevas variantes preocupantes del coronavirus.

Un informe publicado por separado en la misma revista médica aumentó la preocupación por las variantes. Los científicos midieron los anticuerpos que pueden bloquear el virus en 50 personas que habían recibido las vacunas Sinopharm o Sinovac, desarrolladas en China. Muchos mostraron una pérdida total o parcial de eficacia contra una variante del virus detectada por primera vez en Sudáfrica.

Las vacunas todavía parecían proteger contra una variante que se encontró por primera vez en Reino Unido y que ahora se está extendiendo rápidamente en Estados Unidos y otros lugares.

Pfizer y Moderna han dicho que están trabajando para actualizar sus vacunas, o posiblemente diseñar una vacuna de refuerzo, en caso de que sean necesarias contra las nuevas variantes.

Fuente: Washington Hispanic. Disponible en https://cutt.ly/FvrAvaL

Q&A: BioNTech vaccine is only 'mRNA 1.0'. This is just the beginning, say co-founders

8 apr. The successful development of mRNA vaccines for Covid-19 is 'transformational' and opens the doors to new types of vaccines for other infectious diseases as well as cancer, according to Dr Özlem Türeci and Dr Uğur Şahin, the co-founders of Germany's BioNTech.

The mRNA vaccine era is just starting, according to Dr Özlem Türeci and Dr Uğur Şahin, the co-founders of Germany's BioNTech. Image credit - BioNTech SE 2020, all rights reserved

The Pfizer/BioNTech coronavirus vaccine was the first mRNA vaccine ever to be approved for the market. Has the past year fundamentally changed how vaccines will be developed in the future?

Uğur Şahin: The Covid-19 case really shows in different ways the advantages of mRNA vaccines. The first one is that it was the fastest (vaccine) development time ever in medical history. This is one of the key advantages of mRNA vaccines – that they can be manufactured in short production cycles and the time to clinical studies could be as low as a few weeks.

The second is that the data clearly shows that it's not only the fastest approach, it is also a very effective approach in inducing not only immune responses – antibody and T cell responses – but also in preventing symptomatic disease. New (real world) data emerging also (shows that it is effective at) preventing infection, which is important for controlling the pandemic.

And the third is that we are just seeing that the technology, which was never supplied for global use before, has enabled the delivery of vaccines to many, many millions of people. By the end of this year, we plan to manufacture two billion doses.

And this is just the very beginning. This is mRNA 1.0. It's the proof of concept for a very new pharmaceutical drug class.

Now that you've successfully developed one mRNA vaccine, is it just a case of plugging in other virus or pathogen RNA sequences and creating new vaccines? What other infectious diseases do you have in sight?

Özlem Türeci: That's one of the important questions now, namely how to prioritise all the opportunities. Having gone all the way to conditional market authorisation for Covid-19 has allowed us to establish the technology for all the stages of clinical development and regulatory submission.

In principle, there are many other infectious diseases and pathogens where we would just need to cut out the Sars-CoV-2 spike protein sequence and insert the genetic information for an antigen from some other virus or pathogen into the same mRNA vector backbone and then basically repeat what we have done. And flu is the most imminent one because we are already working on that. But we have a couple of other infectious disease indications (such as tuberculosis) where we have already started preclinical work and are in the process of assembling the next shortlist.

You mentioned you had already begun working on a flu vaccine prior to last year. Why was the Covid-19 vaccine developed so fast in comparison?

OT: We started our cooperation with Pfizer for the influenza vaccine only in 2018, and we were at the stage

of doing the foundational preclinical work (when the pandemic hit). So I would not say that influenza is so much slower.

The fact is, that with Covid-19, we were in a global pandemic, which meant the world's attention and resources were going into it – all stakeholders, including regulatory authorities and clinical networks had a vested interest. Processes to initiate first-in-human studies or conducting large trials which normally take months due to long waiting periods have been accelerated.

When we now pick up again our flu work, we will be able to leverage all the advantages of mRNA in terms of short manufacturing cycles to adapting to seasonal variants and all the other aspects.

You originally started looking at mRNA vaccines as a way to treat cancer. Why?

OT: Uğur and I are both physicians and we have treated cancer patients. We are also immunologists and fascinated by the immune system. So then we asked the question: how can we serve the medical need as physicians, which the current standard of care cannot? We immediately thought about using immune therapies and activating the immune system.

US: We have been working on mRNA for more than 20 years. The reason why we started was our vision of individualised cancer therapy, based on the observation that the tumour antigens, the antigens on cancer cells, which are recognised by T cells (in the immune system), are unique in every cancer patient.

We understood that a future therapy could be (based on) analysing the patient tumour and finding out which antigens would be suitable and then producing a vaccine based on this information. And this idea requires the right technology – a technology which would allow (us) to induce an immune response against any type of tumour antigen in a potent way and which can be manufactured within a few weeks – because the cancer, of course, might be growing.

When we started, we evaluated DNA, vector-based vaccines, peptides, recombinant proteins – everything that has been tested before as a potential vaccine technology. But then we evaluated mRNA and we understood this could be really powerful. We could see that mRNA could be expressed in dendritic cells, which are the key cells for inducing an immune response. And that was one decisive factor and the ability to manufacture the vaccine fast was another. And that's why we started to develop mRNA vaccines.

How big a leap was it to refocus this work on infectious diseases?

OT: When we started (our work) many years ago, it was very clear that we had to study the immune system in order to be able to redirect it against cancer.

The immune system has developed mechanisms to protect and defend against pathogens such as viruses. RNA viruses are the most ancient ones, which meant even though we worked on cancer (immunotherapy) for so many years, we had to thoroughly understand those (immune system) mechanisms which were originally against viruses, and also develop methods to mobilise different effectors of the immune system (cells that carry out immune responses) against an antigen. We had to profoundly improve the potency of mRNA vaccines because it is very difficult to mount strong immune responses against self-antigens on cancer cells.

And therefore, it was actually a small step from taking all this and using it (knowledge about the immune system) for what it originally by nature was meant for, namely virus protection.

US: The fundamental principle is the same - it is about engineering and delivering an antigen to dendritic cells to induce an immune response.

When you saw in the clinical trials that your vaccine was 95% effective against Covid-19, were you surprised?

OT: We did not know too much about the biology of the virus when we started (in January 2020). Our objective was to get an ideal immune response, and we knew how to tweak our vaccine to get this immune response. So when we got the data from our phase 1 trial, we clearly saw that we had achieved our objective.

However, what we did not know was how much can this immune response achieve in terms of efficacy. Traditional vaccine efficacies are in general, and typically for influenza vaccines, between 50% and 70%. The 95% was a very positive surprise.

As the vaccination rollouts accelerate and as we get more data in terms of the effectiveness, the effect on transmission, safety and so on, what in particular are you looking out for in that data?

OZ: Understanding efficacy in the broader population is very important. Data (from real world studies) seems to confirm a high efficacy across the broader population and population subsets.

We have already shown in our clinical trial that (our vaccine works) irrespective of gender or age. But you cannot include all subpopulations – like immunocompromised patients, or patients with renal disease who get haemodialysis on a regular basis – in a clinical trial at sample sizes which allows you to draw conclusions. This will come with the data from the real world studies and will help us to understand (which) levels and subsets of the population the vaccine protects.

The goal is to achieve herd immunity.

US: At the moment, one of the challenges is people saying: 'This is new and because this is new I am sceptical, I would like to get the traditional vaccine.' But this will most likely change fast as we continue to share data. We will continue to explain how these mRNA vaccines work. For the Covid-19 vaccine we had eight publications in less than twelve months. And there's more to come.

Do you think that one day all our vaccines will be mRNA vaccines?

OZ: I think we can say that we believe that mRNA will be transformational. We clearly see an era of mRNA vaccines. (However) there are borders where, due to the biology of the respective pathogen, mRNA is not the right format.

US: mRNA vaccines so far cannot supply bacterial carbohydrate antigens. So all the pneumococcal vaccines (that help protect against bacteria that cause pneumonitis or meningitis, for example) where you really need these carbohydrates cannot be synthesised by mRNA. Any type of antigen design which is not possible to be encoded by mRNA to be translated to protein by the human cell, can't be addressed by an mRNA vaccine. So, we believe there will be room for other vaccines.

You received basic research funding from the EU early on in your work – how did that help?

US: The EU funding, and also the funding of the German government allowed us to generate deep scientific understanding of the immune recognition of cancer. The funding has also supported the early stages of our mRNA vaccine research. It helped us to improve our vaccines and generate preclinical and early clinical data for our individualised mRNA cancer vaccine approach. The results obtained from these projects helped us to identify investors who believed in our vision. Pharmaceutical development of new medicines is very costly and compared to the amount we raised, mostly as venture capital, the amount we got from the EU is negligible. However, it is important to understand that innovation development is an iterative process. The clinical findings that we have generated with these mRNA vaccines provoke novel questions and will open up new research areas.

Fuente: Horizon The EU Research &Innovation Magazine. Disponible en https://cutt.ly/8vrHDOn

A fase II vacuna antiCovid-19 de Cuba Soberana Plus

9 abr. El candidato vacunal de Cuba contra la Covid-19, Soberana Plus pasa a fase II de ensayos clínicos en convalecientes, informó hoy el Ministerio de Salud Pública (Minsap) de este país caribeño.

Este viernes, el Centro para el Control Estatal de Medicamentos, Equipos y Dispositivos Médicos aprobó la nueva etapa del ensayo donde se busca evaluar la seguridad, reactogenicidad y la inmunogenicidad de una dosis de la propuesta vacunal en pacientes recuperados de la enfermedad.

Los participantes serán cubanos de ambos sexos, en edades comprendidas entre los 19 a 80 años, con antecedentes de COVID-19 leve o moderada, e infección asintomática.

Se trata de un estudio secuencial, multicéntrico y adaptativo, en grupos paralelos, aleatorizado, controlado con placebo y a doble ciego, precisó la nota del Minsap.

La aprobación está sustentada en los resultados obtenidos en el Ensayo clínico fase I realizado con este candidato, donde se demostró que Soberana Plus es capaz de inducir altos títulos de anticuerpos neutralizantes en convalecientes.

Este candidato vacunal fue desarrollado por el Instituto Finlay de Vacunas (IFV) y el estudio fase II será conducido en el Instituto de Hematología e Inmunología (sitio principal) y en el Centro Nacional de Educación Sexual.

Cuba cuenta con otros cuatro candidatos vacunales contra la COVID-19: Soberana 01 y Soberana 02, también del IFV; mientras Abdala y Mambisa fueron desarrollados por el Centro de Ingeniería Genética y Biotecnología.

Soberana 02 y Abdala se encuentran en la fase III de ensayos clínicos, que hasta el momento marchan bien y sin eventos adversos graves.

Fuente: Prensa Latina. Disponible en https://cutt.ly/TvrCBWs

China aprueba tercera vacuna anticovid de Sinopharm para ensayos clínicos

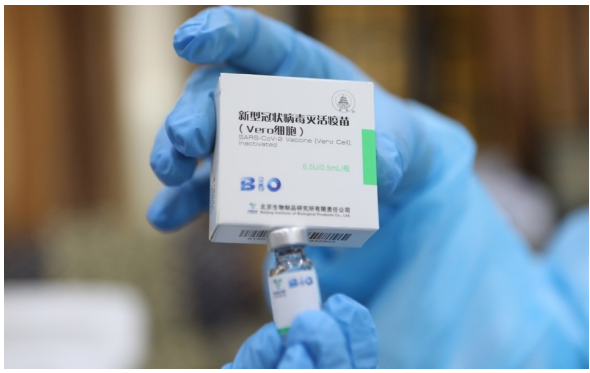
10 abr. Las dos anteriores ya habían sido aprobadas por las autoridades chinas, que habían sido distribuidas tanto en el país asiático como en varios países del mundo.

El gobierno de China aprobó una tercera nueva vacuna contra la COVID-19 desarrollada por la empresa china Sinopharm para realizar ensayos clínicos. La luz verde para comenzar las pruebas se produce después de que dos vacunas previas fueran aprobadas y se usaran ampliamente tanto en el país asiático como varias naciones en el extranjero.

La nueva vacuna recombinante contra la COVID-19, desarrollada por el Instituto Nacional de Vacunas y Suero, un centro de investigación y desarrollo de la filial de biociencia de Sinopharm, el Grupo Nacional Biotec de China (CNBG), obtuvo la aprobación de la Administración Nacional de Productos Médicos el viernes, informó el CNBG en su cuenta oficial de Weibo. La vacuna se basa en las características estructurales del dominio de unión al receptor (RBD) de la proteína espícula del virus (proteína S). Utiliza la ingeniería genética para cultivar copias inofensivas de la proteína S del virus para inducir anticuerpos neutralizantes.

La empresa dijo que la tecnología de la vacuna recombinante está avanzada y es adecuada para la producción a gran escala. La producción no requiere instalaciones con altos niveles de bioseguridad, ya que el proceso no implica virus vivos. La vacuna recombinante es la tercera vacuna contra la COVID-19 de la empresa. El pasado mes de diciembre, una vacuna inactivada desarrollada por el Instituto de Productos Biológicos de Beijing Co. Ltd. bajo el CNBG se convirtió en la primera vacuna china contra el coronavirus con autorización condicional de comercialización.

En febrero, otra vacuna inactivada del Instituto de Productos Biológicos de Wuhan, filial del CNBG, fue autorizada a entrar en el mercado de forma condicional. Más de 161.12 millones de dosis de vacunas



COVID-19 se habían administrado en toda China hasta el viernes, informó hoy la Comisión Nacional de Salud.

Fuente: Milenio. Disponible en https://cutt.ly/ovtcK2n

Vacuna COVID-19: Avanzan las pruebas de la vacuna que se desarrolla en México

10 abr. Desde finales de diciembre Cuba registra un incremento paulatino de variantes del SARS-COV-2 distintas a la reportada inicialmente (Clado G), según la doctora María Guadalupe Guzmán, directora del Centro de Investigación, Diagnóstico y Referencia del Instituto Pedro Kourí (IPK).

Explicó la experta, en la Mesa Redonda, que en el país hoy circulan cinco variantes y seis patrones mutacionales de la enfermedad, con un cambio de patrón respecto a lo observado en 2020, cuando solo se detectó la variante D614G.

¿CÓMO SURGEN ESAS NUEVAS VARIANTES?

Al decir de la doctora, los virus se replican y, para hacerlo, usan las células como maquinarias.

«Pueden ir surgiendo mutaciones específicas o virus con varios grupos de mutaciones. Todas constituyen variantes del original. Un cambio conduce a una nueva variante de la cepa original, y las variantes pueden diferenciarse por una o más mutaciones».

¿TODAS LAS VARIANTES SON MÁS AGRESIVAS Y TRANSMISIBLES?

Eso significa «que usted tiene una nueva variante de un virus a partir de un grupo de mutaciones, y puede incidir en que sea más transmisible, más virulento, más patógeno, y esté asociado a una mayor severidad, mayor posibilidad de muerte. Puede implicar también que el virus se replique más y produzca mayor carga viral, la probabilidad de mutaciones se incrementa en la medida en que la transmisión es mayor».

"Según la doctora María Guadalupe Guzmán, directora del Centro de Investigación, Diagnóstico y Referencia del IPK, en el país hoy circulan cinco variantes y seis patrones mutacionales de la enfermedad, con un cambio de patrón respecto a lo observado en 2020."

¿QUÉ CEPAS ESTÁN PRESENTES EN CUBA?

Es este tipo de estudio el que permite explicar los incrementos de casos en lugares específicos, dijo, y puntualizó que, en nuestro país, desde que se confirmaron los primeros positivos, circula la mutación en la posición 614 de la espícula (S). «Esa mutación le dio al virus una capacidad que acorraló a la original (detectada en Wuhan) y se impuso».

La directora del Centro de Investigación, Diagnóstico y Referencia del IPK añadió que, en el periodo de marzo a julio, en Cuba predominó la variante 614, la más frecuente en el mundo. «En el estudio durante el brote en Ciego de Ávila, todas las muestras respondieron a esta variante; mientras que, entre el 28 de diciembre y el 28 de marzo, se han detectado cinco variantes genéticas y seis patrones mutacionales. No todas tienen el mismo peso, pero están.

¿CUÁLES SON LAS VARIANTES DE MÁS PREOCUPACIÓN DESDE EL PUNTO DE VISTA CLÍNICO Y EPIDEMIOLÓGICO?

Confirmó que, entre las variantes del virus detectadas aquí, además de la original, en algunos casos, y la 614, predominante en 2020, se han detectado otras variantes de preocupación desde el punto de vista clínico y epidemiológico, como la de Sudáfrica, la del Reino Unido, que se detectó en solo tres personas, y la de California, que se está planteando como de interés en salud, pero hay que seguirla.

La detectada en Sudáfrica, en enero, se mencionaba a partir de un viajero, pero evidentemente se está imponiendo en nuestro país. En el caso de la aparecida en Reino Unido, los datos confirman que se debe vigilar, porque puede quedarse ahí o no, pero ya sabemos que entró al país, dijo.

¿QUÉ VARIANTES HAN SIDO DETECTADAS EN EL MUNDO?

Precisó que, hasta la fecha, en el mundo se han identificado tres grupos de variantes del SARS-COV-2, clasificadas como de preocupación y de interés para la Salud Pública.

Entre las primeras mencionó la B.1.1.7 (Reino Unido), la b.1.351 (Sudáfrica), y la b.1.1.28.1 (p1, Brasil/Japón); todas causantes de un gran número de casos, incremento en transmisión e, incluso, en algunos estudios se asocian al aumento de la patogenicidad, de la severidad de la enfermedad.

A las variantes anteriores se suman otras de interés, como las B.1.525, y B.526, ambas de Nueva York, las B.1.427, y la B.1.429, de California, y la B.1.1.28.2, también conocida como P.2.

«No hemos encontrado los cambios aminoacídicos reportados en estos patrones en otras variantes de las reportadas en el mundo. Algunas están en números pequeños, pero otras no, por lo que es posible que surjan variantes cuya nomenclatura oficial sea reportada en La Habana», anunció la científica.

¿SE DISEMINAN MÁS FÁCIL Y RÁPIDO ESTAS NUEVAS CEPAS?

«Algunas de estas variantes se han diseminado más fácil y rápido que las otras, lo que puede justificar la ocurrencia de más casos de SARS-COV-2. Este podría ser un factor, aunque no el único, que justifique el incremento en el número de casos en el país en el último mes.

¿QUÉ MEDIDAS PUEDEN TOMARSE?

Insistió en que las medidas de aislamiento, así como las otras ya conocidas, son las únicas que siguen siendo efectivas, y que deben potenciarse y sostenerse en el tiempo. «Es una situación de peligro, pero hay que enfrentarlo con información, sabiendo lo que hay que hacer, y haciéndolo todos los días. Cuba tiene condiciones para salir de este peligro.

«Si usted mantiene las medidas, aunque la cepa sea muy transmisible o asociada a una mayor patogenicidad, ella no se dispersa; uno puede tener un virus que se transmite muy bien; pero si usted está solo, infectado, cumpliendo medidas de contención y aislamiento, no infectará a los demás, aunque el virus tenga esa potencialidad», reiteró la experta.

¿SON EFECTIVOS LOS CANDIDATOS VACUNALES CUBANOS CONTRA LAS VARIANTES DEL VIRUS?

El doctor Eduardo Martínez Díaz, presidente de BioCubaFarma, confirmó que la aplicación de la segunda dosis, tanto de la vacuna Soberana 02 como de Abdala «marchan bien». Y señaló que estas vacunas, hasta ahora, han

demostrado que son efectivas contra las diferentes variantes del virus.

¿TIENEN ALGO EN COMÚN ALGUNAS CEPAS NUEVAS DEL CORONAVIRUS?

Las tres variantes que son de preocupación de la OMS y la comunidad científica internacional, identificadas inicialmente en el Reino Unido, Brasil, Japón, y Sudáfrica, tienen en común una mutación que provoca un cambio en la RBD, es decir, en «la llave».

Ese cambio hace «que los anticuerpos generados contra una llave que es un poquito diferente, se dificulta su reconocimiento y, por tanto, disminuye su capacidad de neutralizar la unión de esa a la cerradura. Resulta menos efectiva», consignó el investigador.

¿SON IMPORTANTES LOS ANTICUERPOS?

«Es importante tener altos niveles de anticuerpos. Por eso en nuestra estrategia también decidimos aplicar una tercera dosis, para lograr altos niveles de inmunidad y que, frente a esta cepa, aunque baje el nivel de neutralización, siga existiendo neutralización. La circulación de todas estas variantes es un reto para los estudios que estamos haciendo con nuestros candidatos vacunales, porque estamos en un escenario donde existen esas mutaciones. Nos da la posibilidad, también, de que, una vez que tengamos los niveles de efectividad, sea una efectividad en este contexto», indicó el especialista.

«Los niveles de anticuerpos que generan nuestras vacunas están al mismo nivel o son superiores a los que inducen otras –aseguró–. Hay que esperar a que estén los resultados finales y ver cuál es el porcentaje de efectividad que tenemos con nuestras vacunas. Tenemos confianza en que va a ser positivo», recalcó.

Sobre las preocupaciones lógicas de la gente, ante la aparición de las nuevas cepas, el ministro de salud Pública, doctor José Angel Portal Miranda, recordó que todos los virus cambian con el paso del tiempo, pero lo más importante no es qué cepa de coronavirus está afectando al país o territorio, sino que «el virus sigue rondándonos, y hay que hacer todo lo que esté a nuestro alcance para protegernos nosotros y la comunidad global.

«Nuestra mayor preocupación debe centrarse en cuidarnos y cumplir todas las medidas de bioseguridad, porque ante cualquiera de las variantes del virus, las medidas son las mismas», dijo Portal Miranda.

DESPUÉS DE VACUNADO, ¿ES POSIBLE CONTAGIARSE?

«El objetivo de vacunar es disminuir la enfermedad sintomática. Muchas personas siguen pensando que tras el primer pinchazo no se contagiarán con el SARS-COV-2, alertó.

«Lograr respuesta inmunitaria, una vez vacunados, toma tiempo», reiteró el titular de Salud Pública. «La gente está bajando aún más la percepción de riesgo, pensando que es un pinchazo mágico. El cumplimiento de las medidas de protección individual, en la familia y en los colectivos laborales, sigue siendo lo más importante». Asimismo, insistió en la importancia de que la población conozca que esta enfermedad no es tan simple pues, en algunos casos, deja secuelas.

Fuente: Granma. Disponible en https://cutt.ly/9vtQ128

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1	10,968,464	Adenoviral vector system for gene delivery
2	10,968,425	Global gene regulators (GGR) as vaccine candidates against paratuberculosis
3	10,968,269	MHC multimers in borrelia diagnostics and disease
4	10,967,057	Zika viral antigen constructs
5	10,967,055	Vaccine for immunization against Q-fever
6	10,967,053	Peptides and combination of peptides for use in immunotherapy against various cancers

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