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Podcast Contributor Show Notes

FAQs with an ID expert on COVID mRNA Vaccines

Guest Name: Manie Beheshti, MD
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Host(s): Matthieu DeClerck MD
Relevant podcasts: Peds RAP, Primary Care RAP, Urgent Care RAP

Title: FAQs with an ID expert on COVID mRNA Vaccines

Summary: <example>
In this Hippo Education bonus, Dr. Matthieu DeClerck and Dr. Manie Behesti, an infectious disease specialist, answer common questions that clinicians have regarding the new mRNA vaccine, including how mRNA vaccines work, concerns about what we know and don't know, and how to best approach patients.

References:

1. Kaur SP, Gupta V. COVID-19 Vaccine: A comprehensive status report. Virus Res. 2020 Oct 15;288:198114. doi: 10.1016/j.virusres.2020.198114. Epub 2020 Aug 13. PMID: 32800805; PMCID: PMC7423510.
2. Dong Y, Dai T, Wei Y, Zhang L, Zheng M, Zhou F. A systematic review of SARS-CoV-2 vaccine candidates. Signal Transduct Target Ther. 2020 Oct 13;5(1):237. doi: 10.1038/s41392-020-00352-y. PMID: 33051445; PMCID: PMC7551521.
3. Lowe, Derek. "Get Ready for False Side Effects." In the Pipeline, 4 Dec. 2020, blogs.sciencemag.org/pipeline/archives/2020/12/04/get-ready-for-false-side-effects.
4. Abbasi J. COVID-19 and mRNA Vaccines—First Large Test for a New Approach. *JAMA.* 2020;324(12):1125–1127. doi:10.1001/jama.2020.16866

Tags:
Immunology, Infectious disease ID

NOT TO PUBLISH (Internal Notes)

Objectives: Review the new Covid Vaccine. What makes it different from past vaccines. What can we expect as a rollout?

Host Intro:

We currently have 3 potential vaccines for the CoveSars 19 virus with some estimates stating one or more may be ready for use in humans as soon as this month (December 2020). There are so many questions surrounding this breakthrough vaccine so here to help us flesh out the facts is Dr. Manie Beheshti…..

Main Talking Points:

Chapter 1: how the new vaccines work

Set the stage: let's talk about how these vaccines work...
The three main vaccines that so far appear very effective come from Moderna, Astro Zeneca and Pfizer - and they have one thing in common, they use messenger RNA. What does that mean?

Moderna (94.1% effective)
Pfizer (....)
AstraZeneca (...)

If you had to explain this vaccine to a 3rd grader, or to a neighbor who is not interested ins cience, what is your best metaphor, your best short description??

?Will the vaccine produce long term immunity or will it be similar to the flu vaccine where we will have to tailor the vaccine annually according to mutations that occur with the vaccine?

?Will the vaccine decrease transmission from person to person or simply protect the individual from systemic infection?

What side effects can we expect to see in our patients receiving the vaccine?

Blog referenced in podcast:
https://blogs.sciencemag.org/pipeline/archives/2020/12/04/get-ready-for-false-side-effects
(Added to references below)

Chapter 2 - Rollout and its challenges

Set the stage: we're talking about the new coronavirus vaccines that are getting toward the finish line, which are expected to be available to people by XZY

?How quickly will we be able to produce enough vaccines to cover the US population (60% of the population that wants it)? Is it limited by production limitations such as egg based or raw material constraints?

What about other stuff like plastic stoppers, vials?

Do the intense refrigeration requirements pose additional challenges?

?How will it roll out? Who will be receiving it first? How are those decisions going to be made? Is this going to be a federal roll out vs a state vs provider based?

- Some of these vaccnes requires two shots - is that hard?

? We have a history of vaccine sceptics in the United States dating back decades. How safe is this vaccine? Is it any less safe than the common influenza vaccine?

Chapter 3: These vaccines and the future of vaccines

Re-set the stage! These new coronavirus vaccines use messenger RNA, which you described as “quote him back with his great description” - what does this mean for future vaccines?

Will this change how we make older vaccines, like existing vaccines, or just new ones?

Will this mean we will be more agile when the next pandemic hits? Is this sort of a “cake mix for vaccines” where we just add the egg aka the specific virus?