ALLERGY

CURE ASTHMA: PSEUDOSCIENCE?

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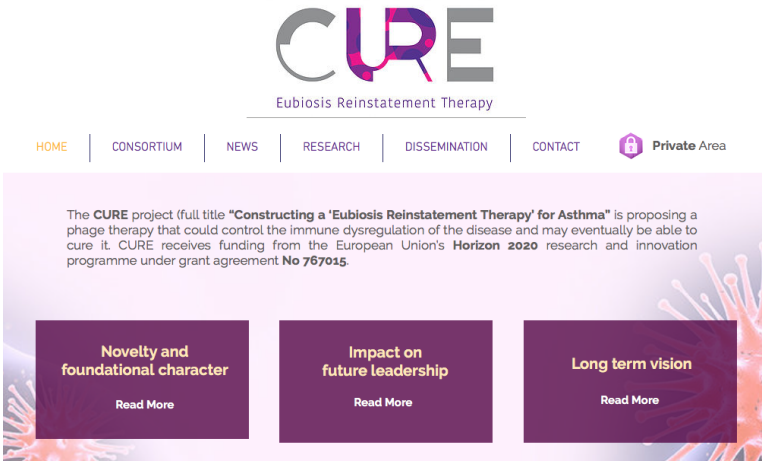
I just came around of an EU funded research program "Cure, Eubiosus Reinstatement Therapy" that has many characteristics of quack science.

For a definition of quackery I suggest to look for

- extravagant, over-ambitious claims
- esoteric language, fuzzy meaning, eyewash
- ignoring conventional research approaches
- vague description of methods
- promoting potentially harmful therapies without warning
- drain of funding agencies' bank account
- promoting magical thinking
- publicizing findings outside the academic journal system
- questionable scientific reputation of researcher or a reputation in a field not under study

How many quack points would you give the following proposal to cure asthma?



> The long-term vision of CURE is to develop respiratory phage therapies capable of improving clinical outcomes in asthma. Such accomplishment will undoubtedly be paralleled by an enhanced understanding of microbiome variability in asthma, providing an innovative aspect of disease pheno/endotyping and establishing the basis for precision medicine interventions. Furthermore, the developed paradigm could be straightforwardly expanded to other chronic respiratory conditions, such as chronic obstructive pulmonary disease (COPD)….
> … Two unique concepts underpin this vision. The first is that, in addition to their potential as 'new age antibiotics', phages may be used to treat chronic inflammatory disorders such as asthma. Asthma is an ideal choice due to its prevalence, impact, variability, suboptimal therapeutic options and multifaceted association with infection.
> … The second is the notion of eubiosis reinstatement, which suggests that in cases where dysbiosis is prominent, the restoration of healthy symbiotic communities may be therapeutically more appropriate than complete elimination of 'culprit' bacteria. Using robust methodologies, CURE will take the essential steps to reach a point where one or more phage cocktails could be ready to be evaluated in clinical trials in asthma.

While I always like innovative ideas, what about 8+ quack points for the proposal above? Resurrecting a 1909 Russian concept of a biological "phage therapy"? Given the considerable immunogenicity this may be even a deadly idea. And it raises numerous questions

- What type of asthma does the project address, early/late onset, extrinsic/intrinsic, moderate/severe, seasonal/perennial, genetic/non-genetic? And they can cure COPD also? And athlete's foot also?
- I don't know if there is any significant microbiome shift in the peripheral asthmatic airway. Every prescription of antibiotics is also leading to an altered microbiome.
- Even if we believe in any asthma typical microbiome: Is this cause or effect?
- If we believe it is a cause: Why not replenish the missing bits?
- And even if we want to kill any bacterial strain, why not trying antibiotics?
- And if you really want to kill a specific target, why not using CRISPR-powered viruses?

has this project ever been reviewed at the EU? Just in case here is some further reading about phage therapy that is used only as a last resort in antimicrobial resistance.

- https://jamanetwork.com/journals/jama/article-abstract/255543 “The subject is relatively new and obscure”
- https://scfh.ru/en/papers/truth-about-phage-therapy/ “Unfortunately, the results of the studies performed in the Soviet Union were not properly documented and described in scientific literature; moreover, they were conducted not in compliance with the currently recognized protocols for clinical trials”
- https://www.ncbi.nlm.nih.gov/pubmed/29621149 “No phage therapy has yet been approved for market by the European Medicines Agency (EMA) in the EU or the Food and Drugs Administration (FDA) in the USA”
- https://www.ncbi.nlm.nih.gov/pubmed/29685950 “Their natural immunogenicity triggers intertwined interactions with innate and adaptive immune cells that might influence therapy”
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3278648/ “Phages as pharmaceuticals are protein-based, live-biological agents that can potentially interact with the body’s immune system, can actively replicate, and can even evolve during manufacture”

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