<u>Dr. Sin Hang Lee's responses to Dr. Brenda Corcoran's comments on the IFICA meeting made on</u> South East Radio's Morning Mix – Monday 23rd April 2018.

As an invited speaker at the IFICA meeting held on 21st April 2018 in Dublin, I felt obliged to respond to the authoritative public comments about mass HPV vaccination of young girls for cervical cancer prevention by Dr. Brenda Corcoran, Head of Ireland's National Immunisation Office broadcast through South East Radio's Morning Mix – Monday 23rd April 2018. The radio statements made by Dr. Corcoran are quoted in my responses as follows:

Dr. Corcoran's statement "HPV is a virus that causes cervical cancer" is half-true at best.

The accurate statement should be that persistent infection by certain specific genotypes of HPV validated by L1 gene DNA sequencing carries the risk of developing invasive cervical cancer [1]. HPV is not one virus. There are at least 150 genotypes of HPV and more than 40 HPV types or subtypes are commonly found in humans. Most of HPV infections and even repeated transient infections by the high-risk HPV genotypes do not lead to cervical cancer. "HPV is a virus that causes cervical cancer" is a slogan commonly used to market HPV vaccines by the industry.

The fact that "every year 90 women die and 300 get a diagnosis of invasive Cervical Cancer" in Ireland indicates a need to improve women's health care because cervical cancer is primarily a disease among unscreened or rarely screened women. [2] "Cervical cancer is nearly 100 percent preventable", as testified by Nancy C. Lee, M.D. Associate Director for Science, Centers for Disease Control and Prevention, before the U.S. House Committee on Commerce, Subcommittee on Health and Environment on March 16, 1999. That testimony was made before any HPV vaccines were introduced into the market.

In Ireland, "6,500 get a diagnosis of a pre-cancer that needs to have treatment - and that is diagnosed on a smear and that may lead to infertility problems or long lasting problems." For the best women's health care, each of these 6,500 cases should be reviewed for possible unnecessary overtreatment because more than 95% of referrals to colposcopy for diagnostic workup may be false positive and/or potentially excessive in that they are in fact performed on healthy women or women who have CIN 1 lesions. Under current industry-driven practice guidelines, screening with combined cytologic and HPV testing, regardless of patient age, leads to the highest number of excessive colposcopic referrals. [3]

The statement "The vaccine we are offering protects against 7 out of 10 cervical cancers" needs a peer-reviewed reference to support its accuracy. The truth is that there is no proof that HPV vaccination has prevented a single case of cervical cancer in any countries.

"The Expectation is that the vaccine will protect against all head and neck cancers and all HPV related cancers which both boys and girls get" is just a great expectation. Since head and neck cancers were not part of the scope of the clinical trials, this claim falls under the category of "off-label marketing" and should not be used as the basis for making health care policies.

Dr. Corcoran's declaration "We know that HPV causes these cancers, so, if we stop people from getting the HPV infection by vaccinating you will stop the cause of these Cancers" is not based on facts. We may not stop people from getting HPV infection by vaccination let alone stopping the cause of these cancers by vaccination.

It is unfortunate that a 25-year girl has developed incurable cervical cancer, in Ireland. The question to ask is: Why this girl did not have proper gynecological care before the invasive cervical cancer was diagnosed? Was she unable to pay for the needed regular gynecological care in Ireland? Was the

HPV test not sensitive enough for the screening? Did the Pap smear tests miss the precancerous cells? Incurable cervical cancer does not appear suddenly without a preceding period in the form of abnormal Pap smears or a persistent HPV infection. In the United States, this would be a case of multi-million dollars malpractice lawsuit against the health care providers. Dr. Corcoran may consider initiating an official enquiry on this case, instead of using this occasion to market a vaccine. "There is evidence that the vaccine works, if you look at Australia, they are talking about eliminating or getting rid of Cervical cancer altogether". Dr. Corcoran is probably not aware that Australian Olympic medalist Sarah Tait died from cervical cancer at the age of 33, even though she was vaccinated with Gardasil at a younger age. Dr. Beller of Israel reported in 2009 that two young women developed invasive cervical cancer shortly after receiving HPV vaccination in a clinical trial and urged precaution about relying on using this vaccine to prevent cancer. [4]

Dr. Corcoran questioned the suggestion of "Why not enhance the Cervical Screening program". I recommend that Dr. Corcoran read the Testimony on Cervical Cancer by Nancy C. Lee, M.D. Associate Director, Centers for Disease Control and Prevention Before the House Committee on Commerce, Subcommittee on Health and Environment March 16, 1999. The then CDC associate director testified that screening and treating precancerous lesions actually prevents cervical cancer from ever developing. There is no evidence that HPV vaccination can replace cervical screening for cervical cancer prevention.

Dr. Corcoran's comment "The speakers at that conference are not regarded by the overwhelming scientific body as having the normal opinions on HPV vaccines" is creating an authority of "overwhelming scientific body" which apparently includes herself to endorse a set of "normal opinions on HPV vaccines" in order to suppress dissenting evidence. However, this strategy will not work in the current informational era because the internet through the widely available personal computers has now given the public the power of knowledge. There is no more absolute scientific or medical authority in this day and age. There is a group of Irish parents whose formerly healthy daughters have developed some serious illness after HPV vaccination. They are looking for answers and help which the overwhelming scientific body cannot offer with their normal opinions on HPV vaccination. It is a medical issue to these parents. They want to know why and how these medical conditions are related to HPV vaccines from any sources, including the speakers invited to speak at the 21st April IFICA conference. These speakers at that conference can be regarded by Dr. Corcoran as irrelevant. But the messages delivered by these speakers may carry the truth which Dr. Corcoran cannot conveniently dismiss.

Dr. Corcoran stated "We are looking at facts about the vaccine" and "The vaccine contains a small portion of the virus that causes the immune system to develop antibodies, so in the future if you come in contact with the HPV virus those antibodies will defend you today from developing the cancer". Since Dr. Corcoran steps into HPV vaccine and antibodies, let us look at the facts of HPV vaccinology:

- 1. It is well known that HPV evades the host immune system. HPV antibody levels induced after natural infection are very low. Specially designed HPV vaccines are needed to elicit highly augmented immune responses of the host to generate sustained high levels of HPV antibodies [5].
- 2. Gardasil is a recombinant quadrivalent vaccine prepared from the purified virus-like particles (VLPs) of the major capsid (L1) protein of HPV Types 6, 11, 16, and 18. It is not "a small portion of the virus", as claimed by Dr. Corcoran. Since VLPs without the naturally packaged DNA are poorly antigenic, a special aluminum salt that can loosely bind anionic phosphate Toll-like receptor agonists (ligands) which serve as molecular adjuvant is needed to augment the innate immune response of the host to enhance antibody productions. [6-8]
- 3. In Cervarix, the disclosed Toll-like receptor 4 agonist is 3-0-descyl-4'-monophosphoryl lipid A (MPL) isolated from a strain of Salmonella [7]. In Gardasil, a Toll-like receptor 9 agonist is used in the form of recombinant HPV L1 DNA fragments whose presence in the HPV vaccine has been confirmed by the FDA [9].

- 4. Activation of Toll-like receptor 9 located in the endosome of antigen presenting cells, including macrophages, leads to secretion of numerous pro-inflammatory cytokines, including tumor necrosis factor-alpha and interferon gamma by the antigen presenting cells and other immune cells. In certain genetically and physically predisposed persons, the pro-inflammatory cytokines and interferon gamma may cause serious autoimmune disorders, including myocardial damage, acute disseminated encephalomyelitis, multiple sclerosis and type 1 diabetes.
- 5. Dr. Corcoran should ask her "overwhelming scientific body" to disclose or to investigate at what manufacturing step the Toll-like receptor 9 agonist was added to or retained in the vaccine Gardasil as the molecular adjuvant. Toll-like receptor 9 agonist has not been officially approved for human vaccine formulations. The short-term and long-term pathophysiological consequences in the human body after activation of the Toll-like receptor 9 of the immune cells by an artificial long-acting Toll-like receptor 9 agonist consisting of recombinant HPV L1 DNA fragments bound to an aluminum salt are virtually unknown and should be investigated.

I am looking forward to reading comments on my responses from Dr. Corcoran or from her overwhelming scientific body. An open scientific discussion with dissenters may find the best approach for cervical cancer prevention at the lowest cost in human injuries and national health care budget.

Sin Hang Lee, MD, F.R.C.P.(C), FCAP April 28, 2018

References

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