Invited commentary

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VACCINES - THE GOOD, THE BAD, AND THE UNKOWN

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No doubt Dr. Janković is correct to summarize his review (1) with the conclusion that as a rule, the benefits produced by most vaccines dramatically outweigh the potential risks they entail. We agree that vaccinations represent the most significant revolution in medicine in the past three hundred years. However, we do not accept the administrative approach spread by vaccine manufacturing companies and adopted by many medical practitioners, and specifically pediatricians, that vaccines have no side effects or entail no risk. It is unreasonable to expect no negative effects whatsoever when subjecting the human body (frequently that of a child characterized by premature immune and nervous systems), to an injection of foreign elements (be it pre-treated bacteria or viruses, or synthetic peptides) along with an adjuvant, which is commonly aluminum, known for decades to be toxic to humans, causing dialysis encephalopathy (2) and ovarian failure (3). In an effort to raise attention to the few who have suffered from side effects (often vaccinated through no choice of their own), so that they may be acknowledged and compensated, we have termed the Autoimmune Syndrome Induced by Adjuvants known as ASIA (4). In terming this syndrome we describe how autoimmunity is developed post vaccination and who is at risk, chiefly those with a genetic background indicating of an overactive immune system, such as those who possess certain alleles of HLA-DRB1(5).

Dr. Janković referred to the limited reports of post immunization autoimmunity in current literature. There is a simple, rather unfortunate, explanation for this: first, most of the epidemiological studies published on the subject were performed either directly by vaccine manufacturing companies or by physicians associated with said companies (6). Second, there is a clear publication bias among medical journals regarding research that addresses vaccination associated side effects, with papers concerning adverse events post vaccination being repeatedly rejected or withdrawn, while papers reviewing the efficacy and safety of vaccines are easily published.

This approach must change, as history teaches us that when examining adverse events properly, some vaccines were shown to cause more harm than benefit, and were

removed from the market, such as the cellular pertussis vaccine and the Rotashield vaccine. If doctors will not be alert to side effects and editors refuse to publish the data, we will witness a historical medical failure. Who knows how many young women taking oral contraceptives will experience primary ovarian failure, or POTS (postural orthostatic tachycardia syndrome) following vaccination for HPV? (7, 8).

Therefore this review by Dr. Janković must pose as a red flag, reminding physicians that while there is no dispute over the medical value of vaccines, there will be those of the vaccinated population who will suffer from significant morbidity following vaccination. We must strive to isolate those at risk (9) and develop a personalized medicine based approach. Additionally, there is room to consider the development of vaccines designed with a safer immunological profile as we have previously suggested, using immunogenic peptides which do not cross react with the human peptidome (10).

References

1. Janković S. Vaccination and autoimmune phenomena. Central Eur J Paed. 2017;13(1):12-23.
2. Wills MR, Savory J. Aluminium poisoning: dialysis encephalopathy, osteomalacia, and anaemia. Lancet. 1983;2(8340):29-34.
3. Wang N, She Y, Zhu Y, Zhao H, Shao B, Sun H, et al. Effects of subchronic aluminum exposure on the reproductive function in female rats. Biol Trace Elem Res. 2012;145(3):382-7.
4. Watad A, Quaresma M, Brown S, Cohen Tervaert JW, Rodríguez-Pint I, Cervera R, et al. Autoimmune/inflammatory syndrome induced by adjuvants (Shoenfeld's syndrome) - An update. Lupus. 2017;961203316686406.
5. Arango M-T, Perricone C, Kivity S, Cipriano E, Ceccarelli F, Valesini G, et al. HLA-DRB1 the notorious gene in the mosaic of autoimmunity. Immunol Res. 2016;1-17.
6. Dahan S, Shoenfeld Y. Letter to the editor – HPV vaccine and autoimmunity Incidence of new-onset autoimmune disease in girls and women with pre-existing autoimmune disease after quadrivalent human papillomavirus vaccination: a cohort study. J Intern Med. 2017;281(3):313-5.
7. Gruber N, Shoenfeld Y. A link between human papilloma virus vaccination and primary ovarian insufficiency: current analysis. Curr Opin Obstet Gynecol. 2015(4):265-70.
8. Tomljenovic L, Colafrancesco S, Perricone C, Shoenfeld Y. Postural Orthostatic Tachycardia With Chronic Fatigue After HPV Vaccination as Part of the "Autoimmune/Auto-inflammatory Syndrome Induced by Adjuvants": Case Report and Literature Review. J Investig Med High Impact Case Rep. 2014;2(1):2324709614527812.
9. Soriano A, Nesher G, Shoenfeld Y. Predicting post-vaccination autoimmunity: who might be at risk? Pharmacol Res. 2015;92:18-22.
10. Kanduc D, Shoenfeld Y. From HBV to HPV: Designing vaccines for extensive and intensive vaccination campaigns worldwide. Autoimmun Rev. 2016;15(11):105461.