First Do No Harm: Scientific Evidence Implicating Allopathic Vaccination

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Abstract

Allopathic vaccination has many scientifically documented safety deficits that counteract well-publicised benefits. Thimerosal and aluminium, common ingredients in vaccines, can cause neurologic, immunologic and developmental harm. The pertussis vaccine has induced pertussis microorganisms associated with whooping cough to mutate and become more virulent. People vaccinated against pertussis can be asymptomatic carriers and transmitters of the disease, rendering herd immunity, or community immunity, unlikely. People vaccinated against measles can spread the disease to other fully vaccinated people. The MMR (measles-mumps-rubella) vaccine increases the probability of requiring emergency care. It also increases the risk of seizures and thrombocytopenia, a serious bleeding disorder. Infections experienced during childhood, such as measles, mumps and chickenpox, encourage normal development of the immune system in most children, offering protection against heart disease, strokes and cancer in adulthood. Vaccines—which are designed to prevent infections—increase cancer rates.

Keywords

- vaccination
- immunisation
- thimerosal
- pertussis
- measles
- MMR vaccine

Introduction

Primum non nocere is Latin for 'First, do no harm,' an idealistic precept of medical care. Yet there is a substantial amount of scientific evidence confirming numerous vaccine safety deficits that counteract well-publicised benefits. For example, vaccine ingredients, such as mercury and aluminium, are associated with numerous, well-documented adverse health consequences. Some vaccines, like the acellular whooping cough shot, induced evolutionary adaptation of the targeted pathogen, creating more virulent vaccine-resistant strains. Other vaccines, like the triple-antigen, live-virus MMR (measles-mumps-rubella) shot, heighten the risk of hospitalisations, seizures and internal bleeding. Vaccines also limit opportunities to contract natural childhood infections that serve a valuable function enhancing the immune system while conferring significant protection in later life against heart disease, strokes and cancer.

Thimerosal (Mercury)

Thimerosal is added to multidose vials of vaccines to prevent bacterial contamination when more than one needle is inserted into the vial. Each dose of a vaccine with thimerosal contains 25 µg of mercury. In some first-world nations such as Canada and the United States, infants and children received high quantities of mercury from several recommended vaccines that contained thimerosal—DTaP (diphtheria-tetanus-acellular pertussis), hepatitis B and *Haemophilus influenzae* type b (Hib)—until around 2002 when thimerosal was removed from most, but not all, vaccines. Today, some first-world nations continue to inject significant quantities of mercury from thimerosal-containing influenza vaccines into pregnant women, infants and children. In third-world nations, infants still receive high quantities of mercury from several different thimerosal-containing vaccines.

Numerous studies show that vaccines containing mercury significantly increase the risk of neurologic damage, including

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speech and sleep disorders, developmental delay, attention deficit disorder, premature puberty, mental retardation and autism. In one peer-reviewed study, boys who received hepatitis B vaccines containing mercury were three times more likely to develop autism than unvaccinated boys.[1] Another study found that rates of autism and mental retardation were six times higher in children who received DTaP vaccines with thimerosal than in those who received thimerosal-free DTaP vaccines.[2]

The U.S. Centers for Disease Control and Prevention (CDC) is fully aware of the link between thimerosal in vaccines and neurologic disorders, including autism. In April 2000, the CDC's *Epidemic Intelligence Service* published the abstract of a study in which CDC scientists analysed vaccination and demographic data on more than 400,000 infants.[3] This study was designed to determine whether infants who are exposed to ethylmercury from thimerosal-containing vaccines are at increased risk of degenerative and developmental neurologic disorders and renal disorders before the age of 6. The risk of developing a neurologic development disorder was nearly twice as high in infants who received the highest cumulative exposure to ethylmercury (> 25 µg) from thimerosal-containing vaccines at 1 month of age when compared with infants who were unexposed to mercury. One-month-old infants with the highest cumulative exposure to ethylmercury also had 2 times the risk of developing a speech disorder, 5 times the risk of developing a nonorganic sleep disorder and were 7.6 times more likely to develop autism when compared with those who were unexposed to mercury from thimerosal-containing vaccines. These findings may have been undesirable because the CDC chose not to publish the full study.

A more recent study found that psychomotor development —the ability to crawl, walk and run—is adversely affected by neonatal exposure to thimerosal-containing vaccines. Newborns who received thimerosal-containing vaccines were compared with those who received thimerosal-free vaccines. Additional exposures to thimerosal-containing vaccines up to 6 months of age were also examined. At 12 and 24 months of age, psychomotor development in neonates who had received thimerosal-containing vaccines was significantly worse when compared with those unexposed to thimerosal-containing vaccines. The authors of this paper wrote: 'Our results have shown that ethylmercury is not completely harmless for the first stage of life and may be responsible for poorer outcomes of psychomotor development in children'.[4] Several animal studies support this finding. For example, young rats injected with thimerosal in doses equivalent to those used in infant vaccines developed severe brain pathologies.[5] In another study, young mice and rats injected with thimerosal had behavioural impairments characteristic of autistic children.[5]

Despite these ominous scientific findings, infants in third-world nations continue to receive high concentrations of mercury from thimerosal-containing vaccines. The World Health Organization (WHO) recommends thimerosal-containing vaccines for third-world infants because it saves approximately 15 cents per dose when compared with thimerosal-free vaccines.[5] In the United States, the CDC recommends influenza vaccines for pregnant women and two doses of an influenza vaccine for all infants. Most influenza vaccines contain thimerosal, so many US children are receiving thimerosal in utero, then again as infants.

Aluminium

Aluminium adjuvants are added to many vaccines to elicit a more robust immune response and increase vaccine efficacy. In the United States, Canada, Europe, Australia and many other regions of the world, infants and children receive high quantities of aluminium from multiple injections of several vaccines. For example, vaccines for DTaP, Hib, hepatitis A, hepatitis B and *Pneumococcus* contain aluminium.

Aluminium is neurotoxic, capable of destroying neurons necessary for proper cognitive and motor functions. After it is injected into the body, it can travel to other organs and remain there for several years. The immune-stimulating effect of aluminium adjuvants can provoke autoimmune and inflammatory adverse reactions. Autoimmune disease and neurologic damage can be induced in animals by injecting them with aluminium adjuvants.[5]

Numerous studies provide strong evidence that injected aluminium is detrimental to health. For example, in one paper, researchers found that aluminium in vaccines can cause chronic fatigue, sleep disturbances, multiple sclerosis-like demyelinating disorders and memory problems. According to the authors of this paper: 'On the grounds of our clinical and experimental data, we believe that increased attention should be paid to possible long-term neurologic effects of continuously escalating doses of alum-containing vaccines administered to the general population'.[6] In another scientific paper, researchers discovered that aluminium in vaccines can travel to distant organs, like the spleen and brain, and become 'insidiously unsafe'.[7] The well-respected journal *Lupus* recently published a paper providing evidence that aluminium in vaccines can provoke permanent malfunctions of the brain and immune system. The authors gave the following warning: 'Because children may be most at risk of vaccine-induced complications, a rigorous evaluation of the vaccine-related adverse health impacts in the pediatric population is urgently needed'.[8]

Pertussis

In the 1990s, a new acellular pertussis (whooping cough) vaccine (DTaP) was introduced in many countries around the world. Prior to that, a whole-cell pertussis vaccine (DTP) was used. The whole-cell vaccine had moderate efficacy (with multiple booster doses) but caused relatively high rates of seizures, other neurologic disorders, brain damage and death in susceptible children. Owing to the high rates of serious adverse reactions, it was replaced by the acellular vaccine.

The acellular vaccine was believed to be safer, but authorities made this trade-off in exchange for a vaccine that was less effective. Not only was the new pertussis vaccine just partially effective when it was introduced, but in the past several years studies have shown that the way in which it is manufactured —to fight against some but not all strains of *Bordetella pertussis* toxins—actually promotes natural selection or

pathogen adaptation. The vaccine has caused pertussis microorganisms that are associated with whooping cough in humans to mutate and become more virulent. The vaccine is not effective against these new strains that are now circulating throughout society.

Vaccine Failures

A recent study published in *Emerging Infectious Diseases* showed that a highly virulent strain of pertussis recently emerged from within pertussis-vaccinated populations. This new strain produces 1.62 times more lethal toxin than the old strain that the vaccine was designed to fight against.[9] The journal *Pediatrics* recently published 'Why Do Pertussis Vaccines Fail?' Current pertussis vaccines fail due to genetic changes in the circulating strains of *B. pertussis* and from inflated estimates of vaccine efficacy—the vaccine's true efficacy may be as low as 40%—not because too many people are unvaccinated. According to the author of this paper, 'Vaccine use has resulted in genetic changes in [pertussis virulence factors] in circulating *B. pertussis* strains, and it has been suggested that this has led to increased vaccine failure rates'.[5]

The journal *Vaccine* recently published a paper showing that 'imperfect vaccine-induced immunity' alters the epidemiology of whooping cough transmission in infants. Children vaccinated with DTaP to protect against *B. pertussis* are more likely to contract whooping cough from *Bordetella parapertussis.* Apparently, 'vaccine-driven pathogen evolution' selected for this other species of pertussis that can infect more efficiently after vaccination. According to the authors of this paper, 'There is evidence from both prospective epidemiological surveillance and recent experiments in model organisms that immunization with the acellular vaccine may actually increase the host's susceptibility to infection by *B. parapertussis*'.[10]

Another recent paper published in the *Proceedings of the Royal Society B: Biological Sciences* investigated the behaviour of the *B. pertussis* pathogen population under pressure from vaccination. Cases of pertussis in vaccinated children have increased dramatically since the introduction of the acellular pertussis vaccine. Vaccines that provide imperfect immunity (i.e., the acellular pertussis vaccine) can increase the level of pathogen circulation, making it more difficult to eliminate the disease. According to the authors of this paper, 'The fact that populations of *B. pertussis* may have evolved to circumvent the immune responses elicited by vaccination and to alter their virulence levels raises a number of questions concerning the design and use of future vaccines'.[5]

Although health authorities such as the U.S. Food and Drug Administration (FDA), the CDC and WHO are acutely aware of the numerous studies documenting pertussis vaccine failures in highly vaccinated populations—due to the imperfect design of current pertussis vaccines that encourage the development of vaccine-resistant mutated strains—they blame unvaccinated people for outbreaks of the disease. They also insist that nearly everyone must be vaccinated to create 'herd immunity', which would not be possible even if *everyone* were vaccinated (a 100% vaccine coverage rate), since the vaccine is so poorly effective against circulating strains.

Vaccinated People Spread Disease

There also is another problem with the pertussis vaccine: it allows vaccinated people to become silent carriers of the disease, spreading it to others. In fact, the FDA recently acknowledged in a press release (November 27, 2013) that individuals vaccinated with an acellular pertussis vaccine 'may still become infected with the bacteria without always getting sick and are able to spread infection to others, including young infants who are susceptible to pertussis disease'. The FDA was referencing an important new study published in the *Proceedings of the National Academy of Sciences*.[11] In this study, infant baboons were vaccinated against pertussis at 2, 4 and 6 months of age. At 7 months of age, they were exposed to the disease. After 24 hours, unvaccinated baboons were placed in the same cages as the vaccinated baboons. The vaccinated baboons infected them with the disease. Although the pertussis-vaccinated baboons did not appear sick after being exposed to the disease, the pertussis pathogen, *B. pertussis*, multiplied and colonised their respiratory systems. The vaccinated baboons were highly infectious and could transmit the disease to other baboons. They had become silent carriers and transmitters of pertussis.

Today, much like Typhoid Mary—an asymptomatic carrier and transmitter of typhoid fever—we need to be wary of 'Pertussis Penny' and 'Whooping Walter' who were previously vaccinated. They may be circulating pertussis everywhere they go. Thousands of people vaccinated against pertussis could be silent carriers of the disease, spreading it to those who come near.

This study of infant baboons provides strong evidence that herd immunity is not possible with current acellular pertussis vaccines. In addition, the practice of 'cocooning'—vaccinating people who have contact with infants—is unlikely to benefit infants, especially when vaccinated people who don't show any symptoms can still spread the disease. This study also confirmed that (1) the acellular pertussis vaccine induces an immune response inferior to natural infection, and (2) antibody levels induced by vaccination do not correlate with protection against pertussis. (The vaccine increased antibody levels but failed to defend against infection and transmission of the disease.) In summary, the pertussis vaccine has caused pertussis microorganisms to mutate into more virulent vaccine-resistant strains, and people vaccinated against pertussis are able to spread the disease. These serious concerns are in addition to the many significant adverse reactions associated with pertussis vaccination.

Measles and MMR

Health officials have long known that people vaccinated against measles can still contract the disease. Also, during outbreaks of measles it is not unusual for a large percentage of the population to have been fully vaccinated. For example, in 2011 there was a large measles epidemic in Quebec, Canada. Passive surveillance identified 678 cases in one outbreak. Measles vaccination rates were high when the outbreak

occurred: 97% of children had received one dose by 28 months of age and 90% had received the recommended two doses. In a school outbreak in Canada where vaccination status was known, more than half of all measles cases were in children who were vaccinated against measles and 49% of all measles cases were in children who had received the recommended two doses of the measles vaccine.[12]

Although scientists knew that vaccinated people could contract the disease, they originally believed that only unvaccinated people could spread measles to others. A recent study published in *Clinical Infectious Diseases* confirms that measles can be transmitted from a fully vaccinated person to other fully vaccinated individuals. A 22-year-old woman with documented evidence of having received two doses of a measles vaccine transmitted measles to four people who were supposedly immune. Two of the people were fully vaccinated against measles; the other two had documentation confirming prior measles antibody protection. The authors of this paper theorised that widespread measles vaccination reduced public exposure to the wild measles virus, limiting opportunities to boost immunity among vaccinated people, which may contribute to waning antibody levels, loss of population immunity to measles and an increased ability of vaccinated persons to transmit the disease.[13]

MMR and Hospitalisations

A failure to protect against measles during outbreaks of the disease is not the only detriment associated with the measles vaccine. A recent study analysed the health records of more than 400,000 children to determine the risk of serious adverse events at 12 and 18 months of age following receipt of MMR vaccines. The incidence of emergency room (ER) visits or hospital admissions 1 to 17 days after vaccination (the risk period) was compared with the incidence 20 to 28 days after vaccination (the control period). Children were significantly more likely to be rushed to an ER or admitted to a hospital during the risk periods after vaccination at 12 months (relative incidence [RI] = 2.04 on day 9) and 18 months (RI = 1.34 on day 12) than during the control periods. For every 100,000 children vaccinated at 12 months of age, 598 additional children had one or more ER visits. In addition, ER visits during the risk period were more likely to require medical aid for multiple conditions compared with ER visits during the control period.[14]

Seizures

The MMR vaccine also significantly increases the risk of seizures. In a study published in the *Journal of the American Medical Association*, researchers analysed data from more than 500,000 children to determine incidence rates of febrile seizures after MMR vaccination. Febrile seizures were nearly three times more likely to occur during the 2 weeks after MMR vaccination than at other times (incidence rate ratio = 2.75).[15] Other researchers analysed convulsion rates in the United Kingdom and made the following conclusion: 'An elevated relative incidence of convulsion was found in the 6- to 11-day period after receipt of [MMR] (relative incidence = 6.26), consistent with the known effects of the measles component of MMR vaccine'.[16]

Internal Bleeding

Immune thrombocytopenic purpura (ITP), a serious autoimmune disease that causes internal bleeding and can be life-threatening, is also significantly more likely to occur after MMR vaccination. In 2014, *Lupus* published a study showing that ITP is five times more likely to occur after MMR vaccination than at other times.[17] Another study found that children were seven times more likely to develop ITP within 6 weeks after MMR (relative incidence = 6.91) compared with the period prior to MMR vaccination.[18]

Natural Infections Strengthen the Immune System

Heart Disease and Strokes

Although cases of measles and mumps declined after measles and mumps vaccines were introduced, scientists now realise that childhood infections serve a valuable function and may be necessary for normal development of the immune system. For example, recently a large Japanese study found that a history of measles and mumps in childhood is significantly protective against deadly heart attacks and strokes during adulthood.[19] In this study, more than 100,000 men and women 40 to 79 years of age were followed for several years to determine their rates of mortality from atherosclerotic cardiovascular disease. Men who contracted measles in childhood were significantly less likely to die from total cardiovascular disease compared with those who were not infected with either measles or mumps. Men who had mumps were significantly protected against dying from a stroke. Men who had both measles and mumps in childhood were significantly less likely to die from a myocardial infarction, that is, a heart attack.

Women who had both measles and mumps in childhood were significantly less likely to die from total cardiovascular disease compared with those who had neither infection. They were also significantly protected against dying from a stroke. The results of this study may be explained by the 'hygiene hypothesis', which proposes that infections suffered during childhood are necessary for normal development of the immune system regulating T helper cells, Th1 and Th2, which control inflammation at the arterial wall leading to atherosclerosis.

In another recent study, scientists found that adults who contracted chickenpox during childhood were significantly protected against coronary heart disease such as angina pectoris and heart attacks. They were 33% less likely to develop coronary heart disease than adults who never contracted chickenpox. Each additional contagious disease contracted during childhood, such as measles, mumps or rubella, increased the protective effect against acute coronary events by 14%. According to the authors of this study, 'Childhood

contagious diseases had a protecting effect against coronary heart disease. The risk for acute coronary events decreased significantly with increasing number of childhood contagious diseases'.[20]

Cancer

Several diseases have oncolytic (anticancer) properties. For example, tumour remissions after measles infection are well documented in the medical literature. Scientists have known for quite some time that infections in early life protect against various cancers in later life. Later-born children have fewer cancer incidents than first-born children because they are exposed to more infections in early life from their siblings. Children who go to daycare in early life gain protection against cancers for the same reason—they are exposed to many infections. Vaccinations denied babies opportunities to become naturally infected, and with this reduction in exposure to disease there was a trade-off—increased rates of cancer.

In *Miller's Review of Critical Vaccine Studies*,[5] ample scientific evidence is presented showing that infections protect against cancer while vaccines—which are designed to prevent infections—increase cancer rates. For example, Newhouse et al found that women who contracted mumps, measles, rubella or chickenpox had a statistically significant reduction in the risk of developing ovarian cancer. Kölmel and colleagues found that individuals who contracted influenza, measles, mumps or chickenpox had a decreased risk of developing skin cancer later in life. Other researchers found that people with a history of chickenpox or influenza are significantly protected against brain tumours.

Albonico et al found that adults are significantly protected against nonbreast cancers—genital, prostate, gastrointestinal, skin, lung, ear-nose-throat and others—if they contracted measles, rubella or chickenpox earlier in life. Montella and colleagues found that contracting measles in childhood reduces the risk of developing lymphatic cancer in adulthood. Alexander et al found that infection with measles during childhood is significantly protective against developing Hodgkin disease (cancer of the lymphatic system). Glaser et al also found that lymph cancer is significantly more likely in adults who were not infected with measles, mumps or rubella in childhood.

Gilham and colleagues found that infants with the least exposure to common infections have the greatest risk of developing childhood leukemia. Urayama et al also found that early exposure to infections is protective against leukemia. Other studies confirm that children who receive MMR, pertussis or hepatitis B vaccines have a significantly elevated risk of developing leukemia.

Conclusion

Allopathic vaccination is a risky endeavour with many documented adverse health consequences. Thimerosal and aluminium, common ingredients in vaccines, can cause neurologic, immunologic and developmental harm. Widespread pertussis vaccinations induced the *B. pertussis* microorganism associated with whooping cough to evolve more virulent, vaccine-resistant strains. People vaccinated against whooping cough can be asymptomatic or silent carriers of the disease, capable of spreading it to others. People vaccinated against measles can spread the infection to other fully vaccinated people, even to those with documented evidence of measles antibody protection. The MMR vaccine increases the risk of emergency hospitalisations, seizures and thrombocytopenia, a serious bleeding disorder.

Infections experienced during childhood, such as measles, mumps and chickenpox, encourage normal development of the immune system, providing protection against heart disease, strokes and cancer in later life. Vaccines—which are designed to prevent infections—increased cancer rates. Heart disease, strokes and cancer cause more than half of all deaths in many countries, including the United States, Canada, Germany and the Netherlands. People may debate whether having fewer childhood diseases in exchange for an increase in fatal heart attacks, strokes and cancer is a good or a bad thing, but the trade-off is a real thing that must be considered when weighing the honest risk-to-benefit ratio of vaccinations. Unpleasant factual information about vaccines must be shared with all concerned individuals, including parents, and they must be free to accept or reject vaccinations if they are to retain true informed consent and have their human rights preserved.

Vita

Neil Z. Miller is a medical research journalist and Director of the *ThinkTwice Global Vaccine Institute* (www.thinktwice.com). He has devoted the past 25 years to educating parents and health practitioners about vaccines, encouraging informed consent and nonmandatory laws. He is the author of several books on vaccines, including *Miller's Review of Critical Vaccine Studies* (2016) and *Vaccine Safety Manual for Concerned Families and Health Practitioners* (2015). Past organisations that he has lectured for include the International Chiropractic Pediatric Association, the International College of Integrative Medicine, the Hahnemann Academy of North America and Homeopathic Prophylaxis—A Worldwide Choice. Mr. Miller has a degree in psychology and is a member of Mensa.

References

1 Gallagher CM, Goodman MS. Hepatitis B vaccination of male neonates and autism diagnosis, NHIS 1997–2002. J Toxicol Environ Health A 2010;73(24):1665–1677

2 Geier MR, Geier DA. Neurodevelopmental disorders after thimerosal-containing vaccines: a brief communication. Exp Biol Med (Maywood) 2003;228(6):660–664

3 Verstraeten T, Davis R, Gu D, et al. Increased risk of developmental neurologic impairment after high exposure to thimerosal-containing vaccine in first month of life. Proceedings of the Epidemic Intelligence Service Annual Conference, vol. 49. Atlanta, GA: Centers for Disease Control and Prevention; April 2000. http://mercury-freedrugs.org/docs. Accessed 29 March 2016

4 Mrozek-Budzyn D, Majewska R, Kieltyka A, Augustyniak M. Neonatal exposure to Thimerosal from vaccines and child development in the first 3 years of life. Neurotoxicol Teratol 2012;34(6):592–597

5 Miller NZ. Miller's Review of Critical Vaccine Studies: 400 Important Scientific Papers Summarized for Parents and Researchers. Santa Fe, New Mexico: New Atlantean Press; 2016:20, 34, 35, 62, 90, 102, 228–247
6 Gherardi RK, Authier FJ. Macrophagic myofasciitis: characterization and pathophysiology. Lupus 2012;21(2):184–189
7 Khan Z, Combadière C, Authier FJ, et al. Slow CCL2-dependent translocation of biopersistent particles from muscle to brain. BMC Med 2013;11:99
8 Tomljenovic L, Shaw CA. Mechanisms of aluminum adjuvant toxicity and autoimmunity in pediatric populations. Lupus 2012;21(2):223–230
9 Mooi FR, van Loo IH, van Gent M, et al. *Bordetella pertussis* strains with increased toxin production associated with pertussis resurgence. Emerg Infect Dis 2009;15(8):1206–1213
10 Lavine J, Broutin H, Harvill ET, Bjørnstad ON. Imperfect vaccine-induced immunity and whooping cough transmission to infants. Vaccine 2010;29(1):11–16
11 Warfel JM, Zimmerman LI, Merkel TJ. Acellular pertussis vaccines protect against disease but fail to prevent infection and transmission in a nonhuman primate model. Proc Natl Acad Sci U S A 2014; 111(2):787–792
12 De Serres G, Markowski F, Toth E, et al. Largest measles epidemic in North America in a decade—Quebec, Canada, 2011: contribution of susceptibility, serendipity, and superspreading events. J Infect Dis 2013;207(6):990–998
13 Rosen JB, Rota JS, Hickman CJ, et al. Outbreak of measles among persons with prior evidence of immunity, New York City, 2011. Clin Infect Dis 2014;58(9):1205–1210
14 Wilson K, Hawken S, Kwong JC, et al. Adverse events following 12 and 18 month vaccinations: a population-based, self-controlled case series analysis. PLoS ONE 2011;6(12):e27897
15 Vestergaard M, Hviid A, Madsen KM, et al. MMR vaccination and febrile seizures: evaluation of susceptible subgroups and long-term prognosis. JAMA 2004;292(3):351–357
16 Miller E, Andrews N, Stowe J, Grant A, Waight P, Taylor B. Risks of convulsion and aseptic meningitis following measles-mumps-rubella vaccination in the United Kingdom. Am J Epidemiol 2007;165(6):704–709
17 Rinaldi M, Perricone C, Ortega-Hernandez OD, Perricone R, Shoenfeld Y. Immune thrombocytopaenic purpura: an autoimmune cross-link between infections and vaccines. Lupus 2014;23(6): 554–567
18 Andrews N, Stowe J, Miller E, Taylor B. Post-licensure safety of the meningococcal group C conjugate vaccine. Hum Vaccin 2007;3(2): 59–63
19 Kubota Y, Iso H, Tamakoshi A; JACC Study Group. Association of measles and mumps with cardiovascular disease: The Japan Collaborative Cohort (JACC) study. Atherosclerosis 2015;241(2):682–686
20 Pesonen E, Andsberg E, Ohlin H, et al. Dual role of infections as risk factors for coronary heart disease. Atherosclerosis 2007;192(2): 370–375