J Vaccines Vaccin 2018, Volume 9
DOI: 10.4172/2157-7560-C1-063

Vaccines against infectious diseases

Ivana Haluskova Balter
French Immunology Society (SFI), France

A vaccine is a biological preparation that improves immunity to a particular microorganism. Accurate diagnostic and surveillance with better understanding of genetic and immunologic background of host specific response and pathogen evolution drives adapted vaccine research. AMR (antimicrobial) resistance is regarded nowadays as a major threat to global public health. The issue is receiving high-level political attention (G7 summit and upcoming G20 for first time). Pandemics, drug resistance and neglected diseases are framing health as a global security issue. WHO drawn up a list to promote research and development (R&D) of new antibiotics (27th Feb 2017) underlining gram-negative bacteria. Although initially omitted from the list, tuberculosis and latent tuberculosis represent still a major issue to tackle. XDR tuberculosis has evolved in several tuberculosis endemic countries to drug incurable or programmatically incurable tuberculosis. BCG vaccine successfully helped to interrupt transmission cycle and along with antibiotic discovery to decrease mortality. However, its efficacy remains controversial. HIV/AIDS has known link with tuberculosis but other risk factors have also emerged in recent years as important determinants of the TB epidemic, one of which is diabetes mellitus. Risk or new emerging and re-emerging pathogens originated from animals after having crossed the species barrier (e.g., Ebola) and re-appearance of old diseases like *pertussis*, measles and known limitations of drugs underline need for innovative vaccines as highly potent tool to tackle resistance and valuable alternative from long term perspective being clearly recognized as a major tool for public health.

ivankahhaluskova@gmail.com