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Editorial

Change in Medical Practice

Due to the proactive prophylactic antibiotic practice, the incidence of infective endocarditis has largely been reduced in recent years. However, such practice has been challenged despite the predisposing and risk factors seemingly remain unchanged. A large cohort of infective endocarditis in children with structural heart defects is reported by the Shanghai group in this issue. It just reflects the problem is not totally over yet but one may argue that the denominator of related patients is not known, so one can hardly comment on the actual incidence. Despite some limitations, the data showed us that the pattern is similar to what we have learned in the past, such as common oral and skin microbials are the predominant offenders and patients with structural heart lesions carry higher risk. This large cohort study reminds us to be vigilant in keeping our preventive mode while taking care of this group of children. It also emphasizes the significance of surgical intervention if it is needed. This article warns us that an old foe in medical practice has not been gone yet.

Probably due to the drastic reduction in infective endocarditis and the worry over the emergence of antibiotic resistance, the pendulum of approaching this problem has swung to the conservative side. In the current American Heart Association (AHA) revised guidelines for infective endocarditis (2007), it advocates against the use of antibiotic prophylaxis for most dental and genitourinary procedures even if prophylactic therapy might be effective. It also does not recommend long term prophylactic use of antibiotics. To make the matter even more complicated, the British and New Zealand subsequently published their own respective guidelines. One has to read carefully, AHA explicitly mentions that these changes "...is not recommended... to provide uniform and consistent global recommendations". One has to consider the social economic status, general oral hygiene and also the environmental sanitary condition of their own community before one should adopt the guidelines as it is.

For type of structural cardiac lesion, the guidelines mention that only patients with prosthetic valves, prior endocarditis, cardiac transplant with a valvulopathy, and certain congenital heart disease now still require antibiotic prophylaxis. However, there is an increasing trend of cardiovascular device-related infections and it carries a higher morbidity and mortality rates. Clinicians have to exercise their own discretion in deciding their practice. In addition, we noticed that the guidelines may not be able to cover most of the patients affected in the Shanghai cohort.

A survey on the practice pattern among American paediatric cardiologists was conducted in 2012 and it showed that paediatric cardiologists in USA generally follow the AHA 2007 guidelines (Patel J et al. *Pediatric Cardiology*, 2014). However, there are exception to the rule in terms of cardiac conditions

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that antibiotics are still tended to be given such as in rheumatic heart disease with aortic insufficiency, transposition of the great vessels after the Mustard procedure, bicuspid aortic valve with severe aortic stenosis, and bicuspid aortic valve with severe aortic insufficiency, etc. Interestingly, with certain lesions such as tetralogy of Fallot post-repair, mitral valve prolapsed with regurgitation, paediatric cardiologists with >15-year experience tends to administer prophylaxis significantly more than their less experienced counterparts. The article commented that "in the absence of definite data, it often is difficult to change one's longstanding practice." The definite data probably means that in the years to come, whether we may witness another surge of infective endocarditis and then we have to revise our practice again.

Another article described the clinical characteristics of children who suffered from severe H1N1 pandemic influenza. The pandemic occurred in 2009 and lasted till early 2010. The study illustrated that H1N1 influenza can be aggressive and surely prevention will be better than cure. Due to the rapid spreading of this virus and also the relative high morbidity and mortality, a specific vaccine has been made quickly thereafter. The WHO's Strategic Advisory Group of Experts (SAGE) recommends that "All countries should immunise their healthcare workers as a first priority to protect the essential health infrastructure." The committee also recommends prioritising vaccination for at-risk groups including: (a) pregnant women, (b) individuals aged >6 months with chronic medical conditions such as asthma or morbid obesity, (c) healthy children, (d) healthy adults aged 65 years and older. Different countries adopt the recommendation with some modifications. Actually, our colleagues Chiu S, et al has shown that the H1N1 vaccine can effectively prevent hospitalisation (>70% effectiveness) (Cowling BJ, et al. Vaccine 2014). Subsequently, a survey done by the "Vaccine European New Integrated Collaboration Effort (VENICE)" (Mereckiene J, et al. Eurosurveillance, 2012) and they found a wide variation of vaccination coverage rate among different European countries ranging from 0.4% to 59% for the entire population; 3% to 68% for healthcare workers; 0% to 58% for pregnant women; and 0.2% to 74% for children. Multiple reasons for the discrepancies among countries have been postulated and they included communication problems, public perception and vaccine availability. In Hong Kong, despite the vaccine is provided to the at risk groups by the Government, low coverage rate was noted. It was shown that only very few adults (<16%) thought H1N1 would have serious consequences and very few worry about the serious consequence related to H1N1 (<25%) (Mok PK, et al. J Health Psychol. 2014). In addition, majority of the adults mistakenly thought H1N1 can be effectively controlled by treatment (>72%). Currently, Centre of Health Protection in Hong Kong is again stressing the importance of seasonal flu vaccination (www.chp.gov.hk) and recommends that all persons age 6 months or above should receive it annually and local healthcare provider should help to promote such practice.

Therefore, expert opinions based "guidelines" do not necessary change the practice of medicine right away. It has to build on sound scientific evidence and at the same time taking the consideration of risk and benefit balance. Then how to timely and adequately inform the professionals and public will be another challenge. Furthermore, the advance in both basic and clinical science may also change our pre-conditioned concept and practice which often takes time to adjust.

GCF Chan
Chief Editor