Continued challenges for TB control in Australia

Australia ranks as having one of the lowest rates of tuberculosis (TB) worldwide. Multi-drug resistant TB (MDR-TB), however, presents new challenges. With a recognised history of having one of the best TB control programs in the world, we need to maintain it, assure the most at-risk groups have comprehensive and supported screening and treatment programs and share our experience and expertise in our region and globally.

It has been well-established that TB is a major public health problem, causing overwhelming, yet potentially preventable, disease and death worldwide. In 2007 the World Health Organization (WHO) estimated that globally there were 9.2 million new cases of TB per year and 1.7 million deaths from TB.

It should be well-recognised or acclaimed that Australia has one of the lowest rates of tuberculosis (TB) in the world. This is not by accident, but reflects the vision and good public health policies of clinicians and authorities that resulted in Australia having initiated and maintained one of the best TB control programs in the world. There is, however, a new and growing challenge for TB control that requires our utmost attention and preparedness. This challenge is multi-drug resistant TB (MDR-TB); TB that is resistant to our two most effective first-line drugs for treatment and cure: isoniazid and rifampicin. Treating TB or addressing future reactivation of TB is much more complex when the strain is MDR-TB.

Australia has always recognised that effective, well-coordinated TB treatment begins with the primary prevention of TB, as it is patients with TB that transmit the disease. Therefore recognising TB (that means an awareness of the disease by health staff and the community) and rapid diagnostics, along with assisting the patient to achieve complete and curative treatment, has been paramount. From a laboratory perspective, Australia has always emphasised the need for culture and the critical importance of drug susceptibility testing for all suspected *Mycobacterium tuberculosis* specimens. Australia’s rates of TB over the past 25 years have stayed within 5 to 6 cases per 100,000 population, per year, equating to approximately 1000 cases annually and now with increased population up to 1200 cases of TB per year.

While our overall rates have remained stable they have differed widely among groups. Rates in Australian, non-Indigenous people have continuously trended downwards to very low rates of less than 1 per 100,000 population. Rates in Indigenous Australians, while not uniform throughout the country, have also trended downward. However, as rates in Indigenous Australians started out at a much higher rate, they remain six to seven times higher than the TB rates of non-Indigenous Australians – a gap yet to be closed.

In stark contrast, rates in people born overseas have been rising continuously, now being 18-21 times the Australian-born rates and accounting for 85-87% of all notified TB cases yearly.

If we look at MDR-TB in Australia, again that is TB that is resistant to treatment by our two most effective TB drugs, until recently these cases accounted for less than 2% of all culture-positive TB cases. In 2006, however, 2.4 % of notified TB cases were MDR-TB and in 2007, 2.7% cases were MDR-TB; with all MDR-TB cases being in patients born overseas [R. Lumb, Australian Mycobacterium Reference Laboratory Network, personal communication]. The WHO Western Pacific and Southeast Asian regions combined report lists approximately 300,000 MDR-TB cases, with only 1% receiving adequate treatment; that leaves 297,000 to suffer from the disease and to continue to transmit MDR-TB for the future.

Up to one in every 10 new cases of TB in China is reported to be MDR-TB.

In addition to the growing threat of MDR-TB, extensively drug-resistant TB (XDR-TB), defined as resistance to isoniazid and rifampicin plus resistance to any fluoroquinolone and at least one of three injectable anti-TB drugs (capreomycin, kanamycin or amikacin) has demonstrated even higher probability of worse outcomes and death, especially in combination with HIV infection. According to the WHO, all continents have reported XDR-TB cases with at least 49 countries affected.

What are the consequences of MDR-TB?

It means TB that:

1. is much more costly to treat (up to 100 times more costly and even much greater if XDR-TB)
2. transmits disease for longer periods as time to cure and drug completion is prolonged
3. has the potential for drug side effects to be more frequent and challenging as the number of drugs used and the length of treatment increases

So, what can be done?

Australia must maintain its clear vision of effectively treating TB (with all that that entails, such as promoting TB awareness and providing rapid diagnostics and local TB unit services) and...
uphold the polices and programs to carry out such control activities.

However, those most at risk of TB in Australia, who account for greater than 85% of cases, are those born overseas from high TB-incidence countries. Strategies required to address this high risk group include:

1. To optimise the screening offered to overseas-born groups from high TB-incidence countries on coming into the country. This includes, for pre-migration, providing the most productive screening to detect active cases of TB for treatment and to identify suspect cases and assure adequate follow-up services are available for these cases in Australia 4. This requires continuing a close and productive working relationship with the Department of Immigration and Citizenship. In the post-migration period, services and activities, such as universal TB screening in refugees, need to be promoted, to allow for preventive treatment for TB, as is recommended in the recently released Australasian Society of Infectious Diseases’ Refugee Health Guidelines, the Diagnosis management and prevention of infections in recently arrived refugees 5.

2. To contribute to combating TB, including MDR-TB, in high TB-incidence countries.

With only 1% of MDR-TB cases being treated in our region, the potential for latent TB infection with MDR-TB strains progressing to active MDR-TB in those coming to Australia will dramatically challenge and change the treatment and control requirements for TB in the coming years. To the question, “What can we do?” the message is clear; for TB control in Australia, we need to be involved in TB control in our region and our world.

Australia has one of the best TB control programs in the world – we need to maintain it and share our experience and expertise in our region and globally.

References

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