



2019 October Infection Prevention & Control TOPIC # 9 – African Swine fever and TB.

AFRICAN SWINE FEVER - why we should know something about it.

The virus does not affect humans. All pigs are susceptible and infection by most strains results in almost 100% fatality. It is highly contagious and can be spread over long distances making biosecurity on farms a priority. It is spread by animal to animal contact as well as contact with contaminated surfaces and tick bites. Animals develop a high fever, are extremely unwell with loss of appetite.

By implementing strict biosecurity measures that place barriers between the source of virus and the pigs it is possible to prevent infection. However, this has implications for free-ranging pig husbandry systems that are widespread in developing countries. Attempts to produce a vaccine are ongoing and new technology offers some hope for the future, but this will not remove the necessity for implementing adequate biosecurity on pig farms.

The infection has now reached East Timor with concerns that it's not far to the feral pig population in NT/WA. The implications for world protein security with 20% of the world's protein expected to disappear due to culling efforts are obvious. It is anticipated that by the end of 2019, 70% of China's 740 million hogs will be culled (440 million so far this year). Before you think this is a great export opportunity for Australia, the drought has affected our stock and even with rains, farmers may hold stock to improve its condition. In summary the risk is serious on two fronts

- threat posed to our pork industry should this virus enter
- the outbreak across Asia is driving a global meat shortfall

There is a restriction on imported products - meat product is seized from passengers at airports as well as through the mail. Products allowed in are canned, cured under special conditions that inactivate the virus or sourced from disease-free countries approved by the govt dept.

Sources – 1. RN broadcast. 2. Review from Journal of Sth African vet assoc.

Tuberculosis – 1.7 billion people infected with latent TB worldwide

A big problem on two fronts

1. Debilitating infection affecting so many young people and with catastrophic costs
2. Extreme resistant strains making a once 100% curable infection less so.

The *Mycobacterium tuberculosis* bacterium forms a waxy coat that protects it from the body's white cell defences to some extent and also allows it to remain infective in the environment for a long time. It is transmitted by the airborne route (not droplet) and isolation rooms with TB pts are usually negatively pressured. A regime of antimycobacterial drugs are used (if the strain is sensitive) and after two weeks of successful treatment the pt is not considered infectious. In untreated cases, the body's best defence if it cannot eliminate it is to wall off growth in a granuloma – this may progress to a caseous necrosis. Calcification is another means the body attempts to eliminate the bacteria and shows up in xrays. was declared a global health emergency in 1993 and after much neglect and lack of funding, efforts previously dropped, have picked up again and since then there have been better outcomes and reductions in mortality. Detection, effective treatment and care, prevention and management of exposure are standard in Australia. In Victoria from Jan-Oct this year we detected 354 cases. Last year Australia wide there were 1440 cases detected (NSW had 10 resistant strains). DR – TB (drug resistant). One third of all deaths from antimicrobial resistance are due to DR-TB! Extreme drug resistant (XDR) is emerging as a problem and can result from mismanaged therapy. XDR-TB is present in 49 countries. None has been detected in Australia to date however there have been cases of XDR-TB in PNG. The Asia -pacific area is a high burden setting with 62% of all TB cases globally. 55% of DR-TB is in the Asia-Pacific.

Source - Burnet Institute Spring newsletter