OIE/FAO GLOBAL CONFERENCE ON FOOT AND MOUTH DISEASE
Asuncion, Paraguay 24 - 26 June, 2009

RECENT OUTBREAKS OF FMD IN MONGOLIA AND KEY CONTROL MEASURES

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Introduction

Mongolia is a large, landlocked and sparsely populated country in central Asia. Livestock plays an irreplaceable role in the economic and cultural lives of the people of Mongolia. There are approximately 180 000 herding families in Mongolia living in white "ger" tents, rearing a mixture of sheep, goats, cattle, yaks, horses and camels. These families move many times a year in search of fresh pastures. Important infectious animal diseases are FMD, sheep pox, goat pox, anthrax, rabies and brucellosis and control of them is a Government responsibility.

Recent Outbreaks

The history of FMD in Mongolia in the last century is one of freedom interspersed with periodic epidemic incursions and after 26 years of freedom, FMD re-emerged in in April of 2000 with outbreaks following till May of 2006. In total, more than 50 outbreaks of FMD in different parts of the country have been detected in the recent past (Figure 1). Since 2006, no case of FMD has been recorded.

Figure 1. The geographical situation of Mongolia and primary and secondary outbreaks of FMD during 2000-2006

Clinical Diagnosis

Most commonly severe and typical FMD symptoms are observed in cattle (photo 1). A few severe cases of FMD in goats, sheeps and Bactrian camels were also recorded. Symptoms in the mouth and feet of camels were clear and quite specific. The epidermis layer on the feet and chest sloughed off (photo 2) and the animal often lay on its side due to the chest and feet injuries. Clinical manifestation of FMD in gazelles (photo 3) was detected in 2004.

Reference:
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-*Sodnomdarjaa. R.* THE EPIDEMIOLOGY AND CONTROL OF FOOT AND MOUTH DISEASE IN MONGOLIA. Seuol, Korea, 2004, *Proceedings of the 13th FAVA Congress,* p.48-55
-*Kwang-Nyeong Lee, R. Sodnomdarjaa and at all* SEQUENCE ANALYSIS OF A COMPLETE GENOME OF FOOT-AND-MOUTH DISEASE VIRUS ISOLATED FROM MONGOLIAN CLINICAL SAMPLES. Ulaanbaatar, Mongolia, SCVL-Proceedings-2007, p. 42-44

Laboratory Diagnosis

Laboratory testing for FMDV antigen and antibody detection showed that FMD virus serotype "O" was responsible for the disease outbreaks In 2000-2004, but in the 2005 case, the FMDV serotype was Asia-1, which has not previously been detected in Mongolia. Antigenic and molecular characterisation of viruses demonstrated that a nucleotide sequence of VP1 gene of FMDV isolated in 2000, 2001 and 2002 can be linked to the Pan-Asian group of O type FMDV and the sequence of the VP1 gene of Asia-1 virus (As1/Mongolia/2005) was found to be closely related to both As1/Amursky/ RUS/2005 and As1/Jiangsu/CHA/2005 strains.

Control Strategy and Discussion

The main components of the FMD control strategy currently in use are: FMD epidemiological arrangement; modified stamping out, vaccination, animal movement control; serosurveillance, improvement of public awareness and cooperation with the OIE. In most of outbreak areas, modified stamping-out of diseased animals is applied and compensation of 90% of the livestocks market value is paid following the destruction of diseased animals.

An important part of the FMD control in Mongolia is the vaccination of susceptible livestock populations in areas at risk. Russian ARIAH-made "O" type vaccine and three valent FMD vaccine of the Indian Immunological Center have been applied. Compulsory and free of charge vaccination is carried out by the private veterinarians paid by the Government.

It is planned to continue a vaccination program of livestock populations in the risk areas, where migration of gazelles is dominant and to expand serological surveillance for monitoring: effectiveness of preventive measures, possible infection in wildlife and confirmation FMD freedom in healthy zones.

It is unlikely that FMD outbreaks in Mongolia can be controlled at the national level alone. Transboundary movement of a substantial number of wildlife requires a regional approach to control FMD.