



Organisation
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Infection with porcine epidemic diarrhoea virus

PED

OIE TECHNICAL FACTSHEET

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1. Introducción – Introduction

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- non-zoonotic viral disease of pigs
- characterised by watery diarrhoea and weight loss
- It was first identified and reported in 1971
- It affects pigs of all ages
- but most severely neonatal piglets
- morbidity and mortality of up to 100% with mortality decreasing as age increases
- It is a contagious disease
- transmissible mainly by the faecal-oral route

1. Introducción – Introduction

- clinically similar to other forms of porcine gastroenteritis including anorexia, vomiting, diarrhoea and dehydration
- The prevention and management control are focussed on strict biosecurity and early detection
- no specific treatment
- PED is not included in the OIE List of Diseases
- reporting obligations of Member Countries outlined in Article 1.1.4. 1) a) of the OIE *Terrestrial Animal Health Code*

Gtorres1

Slide 5

Gtorres1 Mention that refers to emerging and clarify that the fact of non being listed it does not mean countries can not implement mitigation measures. The List of disease is only related to reporting obligation.

Probably include a map with countries that reported since 2013: USA, Canada, Colombia, Ecuador, Dominic Republic, Taiwan, Mexico, Japan

Gregorio Torres, 9/22/2014

1. Introducción – Introduction

EMERGING DISEASE

means a new occurrence in an *animal of a disease, infection or infestation, causing a significant impact on animal or public health resulting from:*
a change of a known pathogenic agent or its spread to a new geographic area or species; or
a previously unrecognised pathogenic agent or *disease diagnosed for the first time.*

1. Introducción – Introduction

Article 1.1.2.

Member Countries shall make available to other Member Countries, through the OIE, whatever information is necessary to minimise the spread of important animal *diseases, and their aetiological agents, and to assist in achieving better worldwide control of these diseases.*

To achieve this, Member Countries shall comply with the *notification requirements specified in Articles 1.1.3. and 1.1.4.*

1. Introducción – Introduction

Article 1.1.4.

Veterinary Authorities shall, under the responsibility of the Delegate, send to the Headquarters:

notification through WAHIS or by fax or e-mail, when an emerging disease has been detected in a country, a zone or a compartment;

1. Introducción – Introduction

Article 1.1.6.

Although Member Countries are only required to notify listed diseases, *infections and infestation* and *emerging diseases, they are encouraged to inform the OIE of other important animal health events.*

2. Etiología - Aetiology

- Causative agent
- RNA virus Alphacoronavirus genus of the Coronaviridae family
- It does not demonstrate cross-immunity with other porcine enteric coronaviruses (TGE)

2. Etiología - Aetiology

- **Suceptibility**
- Formalin (1%),
- Anhydrous sodium carbonate (4%), lipid solvents, iodophores in phosphoric acid (1%),
- Sodium hydroxide (2%)

2. Etiologia - Aetiology

- Survival

- The virus can survive for variable periods outside the host depending on the temperature and relative humidity,
- Survives at least 28 days in slurry at 4°C, 7 days in faeces-contaminated dry feed at 25°C, up to 14 days at 25°C in wet feed and at least 28 days in wet feed mixture at 25°C

2. Etiología - Aetiology

- Survival (cnt.)
- The virus loses infectivity above 60 °C
- It is stable at pH 6.5-7.5 at 37°C and pH 5-9 at 4°C

3. Epidemiología – Epidemiology

3. Epidemiología – Epidemiology

- Host
- Pigs
- Wild pigs is unknown
- No zoonosis
 - No risk for human health
 - No risk for food safety

3. Epidemiología – Epidemiology

• Transmission

- Direct – ingestion of contaminated faeces
- Indirect – vehicles – feed trucks- animal movement vehicles- services – personnel – equipment – other contaminated objects including feed.

3. Epidemiología – Epidemiology

- **Transmission**

- Pig blood products, spray-dried plasma have been suspected
- However with adherence to Good Manufacturing Practices and Biosecurity, experimental studies suggest that it is not a likely source of infection

3. Epidemiología – Epidemiology

- **Vireaemia – incubation – infection**
- Incubation: 1 – 4 days
- Infective period: 6 – 35 days
- Viraemia: 2 – 4 weeks
(experimentally)
 - Sources of virus
- Faeces

3. Epidemiología – Epidemiology

• Occurrence and impact

- UK 1971
- Several UE – Asia – Americas countries
- Large-scale outbreaks of diarrhoea
- Severity is age dependent
- Endemic countries, limited to occasional outbreaks
- Important losses in naïve population

3. Epidemiología – Epidemiology

- **Occurrence and impact**

- Since 2011 high morbidity and mortality in young are reported
- 2013 – 2014 mortality in piglets ranging 50 to 100 %

4. Diagnóstico – Diagnosis

4. Diagnóstico – Diagnosis

• Clinical

- Morbidity: up to 100%,
- Mortality varying according to age:
- Suckling piglets: up to 100%
- Piglets older than 10 days: less than 10%
- Adult and fattening pigs: less than 5%
- Diarrhoea and vomiting causing dehydration and metabolic acidosis.

4. Diagnóstico – Diagnosis

• Lesions on post-mortem

- Thinning of the intestines, mostly limited to the small intestines,
- Presence of undigested milk in the stomach,
- Watery intestinal contents

4. Diagnóstico – Diagnosis

• **Differential diagnosis**

- **Clinically**: indistinguishable from other gastroenteric diseases
- **Laboratory diagnosis**
- ***Samples***
 - Fresh faeces,
 - Oral fluids,
 - Small intestine,
 - Serum can be used to determinate the presence of antibodies.

4. Diagnóstico – Diagnosis

• Differential diagnosis

- Procedures

- Identification of the agent

- Reverse-transcriptase polymerase chain reaction (RT-PCR),
- Antigen enzyme-linked immunosorbent assays (ELISA),
- Immunohistochemistry (IHC),
- Virus isolation (difficult to isolate the virus).

4. Diagnóstico – Diagnosis

• Differential diagnosis

- **Procedures**
- Serological tests
 - ELISA,
 - Immunofluorescence,
 - IHC,
 - Serum neutralisation.

5. Prevención y control

Prevention and Control

5. Prevention and Control

- Vaccines are available **in some countries**
- Maternal antibodies via colostrum from sows can increase protection of neonates against infection
- Strict biosecurity

6. Salud Publica Public Health

6. Public Health

- **Not a zoonosis**
 - **No risk for human health**
 - **No risk for food safety**



Gracias por su atención Thanks for your attention

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