

Transmissible gastroenteritis: demonstration of the virus from field specimens by means of cell culture and pig inoculation.

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Transmissible gastroenteritis: demonstration of the virus from field specimens by means of cell culture and pig inoculation.

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Abstract

Isolation of transmissible gastroenteritis virus was attempted from segments of jejunum collected from piglets submitted for diagnosis of transmissible gastroenteritis. The virus was isolated more frequently in susceptible piglets than in pig kidney or pig thyroid cells. Practically, both cell systems were equally capable of demonstrating the virus when the tissue suspensions were sonicated. The pig thyroid cells prepared with glands collected from minimal disease pigs were preferred to the pig kidney cells for initial virus isolation because of their ability to respond to transmissible gastroenteritis virus with a progressive cytopathic effect. However,

the pig thyroid cells, prepared from pool of glands collected in abattoirs, were often contaminated with parvoviruses and could not be used for diagnostic work. Controlled ultrasound treatments of the inoculum increased the frequency of virus isolation in both cell systems.

Full text

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Transmissible Gastroenteritis: Demonstration of the Virus from Field Specimens by Means of Cell Culture and Pig Inoculation

G. C. Dale, G. M. Ruckelshaus and P. Bouvier*

ABSTRACT

Isolation of transmissible gastroenteritis virus (TGEV) from field specimens of pigs was confirmed by means of cell culture and pig inoculation. The virus was isolated from a piglet which died of diarrhoea and vomiting. The virus was identified by means of cell culture and pig inoculation. The virus was identified by means of cell culture and pig inoculation. The virus was identified by means of cell culture and pig inoculation.

INTRODUCTION

In 1965, Hovda et al. (1) described the isolation of transmissible gastroenteritis virus (TGEV) from a piglet which died of diarrhoea and vomiting. The virus was identified by means of cell culture and pig inoculation. The virus was identified by means of cell culture and pig inoculation.

RESULTS

Cells which support the isolation of TGEV were prepared by means of cell culture and pig inoculation. The virus was identified by means of cell culture and pig inoculation. The virus was identified by means of cell culture and pig inoculation.

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MATERIALS AND METHODS

Pig

The pig used in these experiments was obtained from the University of Guelph. The pig was identified by means of cell culture and pig inoculation. The virus was identified by means of cell culture and pig inoculation.

CELL CULTURE

The procedure followed for the isolation of the virus was as follows: The cells were cultured in the presence of the virus. The virus was identified by means of cell culture and pig inoculation.

ANTIBODIES

Antisera against the TGEV virus were prepared in the presence of the virus. The virus was identified by means of cell culture and pig inoculation.

RESULTS

Isolation of TGEV virus was confirmed by means of cell culture and pig inoculation. The virus was identified by means of cell culture and pig inoculation.

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Fluorescent antibody technique (FAT)

Antisera against TGEV virus and control sera were prepared by means of cell culture and pig inoculation. The virus was identified by means of cell culture and pig inoculation.

RESULTS

Isolation of TGEV virus was confirmed by means of cell culture and pig inoculation. The virus was identified by means of cell culture and pig inoculation.

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TABLE 1. Virus Isolation from Field Specimens in Pig Tissue and Piglet Inoculation

Case No.	Specimen	Isolation	Isolation	Isolation	Isolation
1	Small intestine	+	+	+	+
2	Small intestine	+	+	+	+
3	Small intestine	+	+	+	+
4	Small intestine	+	+	+	+
5	Small intestine	+	+	+	+
6	Small intestine	+	+	+	+
7	Small intestine	+	+	+	+
8	Small intestine	+	+	+	+
9	Small intestine	+	+	+	+
10	Small intestine	+	+	+	+
11	Small intestine	+	+	+	+
12	Small intestine	+	+	+	+
13	Small intestine	+	+	+	+
14	Small intestine	+	+	+	+
15	Small intestine	+	+	+	+
16	Small intestine	+	+	+	+
17	Small intestine	+	+	+	+
18	Small intestine	+	+	+	+
19	Small intestine	+	+	+	+
20	Small intestine	+	+	+	+
21	Small intestine	+	+	+	+
22	Small intestine	+	+	+	+
23	Small intestine	+	+	+	+
24	Small intestine	+	+	+	+
25	Small intestine	+	+	+	+
26	Small intestine	+	+	+	+
27	Small intestine	+	+	+	+
28	Small intestine	+	+	+	+
29	Small intestine	+	+	+	+
30	Small intestine	+	+	+	+

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TABLE 2. Proportion of Positive Results on Specimens of Intestines of Experimental Pigs and on Cell Culture

Case No.	Intestine	Isolation	Isolation	Isolation	Isolation
1	Small intestine	+	+	+	+
2	Small intestine	+	+	+	+
3	Small intestine	+	+	+	+
4	Small intestine	+	+	+	+
5	Small intestine	+	+	+	+
6	Small intestine	+	+	+	+
7	Small intestine	+	+	+	+
8	Small intestine	+	+	+	+
9	Small intestine	+	+	+	+
10	Small intestine	+	+	+	+
11	Small intestine	+	+	+	+
12	Small intestine	+	+	+	+
13	Small intestine	+	+	+	+
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21	Small intestine	+	+	+	+
22	Small intestine	+	+	+	+
23	Small intestine	+	+	+	+
24	Small intestine	+	+	+	+
25	Small intestine	+	+	+	+
26	Small intestine	+	+	+	+
27	Small intestine	+	+	+	+
28	Small intestine	+	+	+	+
29	Small intestine	+	+	+	+
30	Small intestine	+	+	+	+

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TABLE 3. Virus Isolation from Field Specimens in Pig Tissue and Piglet Inoculation

Case No.	Specimen	Isolation	Isolation	Isolation	Isolation
1	Small intestine	+	+	+	+
2	Small intestine	+	+	+	+
3	Small intestine	+	+	+	+
4	Small intestine	+	+	+	+
5	Small intestine	+	+	+	+
6	Small intestine	+	+	+	+
7	Small intestine	+	+	+	+
8	Small intestine	+	+	+	+
9	Small intestine	+	+	+	+
10	Small intestine	+	+	+	+
11	Small intestine	+	+	+	+
12	Small intestine	+	+	+	+
13	Small intestine	+	+	+	+
14	Small intestine	+	+	+	+
15	Small intestine	+	+	+	+
16	Small intestine	+	+	+	+
17	Small intestine	+	+	+	+
18	Small intestine	+	+	+	+
19	Small intestine	+	+	+	+
20	Small intestine	+	+	+	+
21	Small intestine	+	+	+	+
22	Small intestine	+	+	+	+
23	Small intestine	+	+	+	+
24	Small intestine	+	+	+	+
25	Small intestine	+	+	+	+
26	Small intestine	+	+	+	+
27	Small intestine	+	+	+	+
28	Small intestine	+	+	+	+
29	Small intestine	+	+	+	+
30	Small intestine	+	+	+	+

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TABLE 4. Virus Isolation from Field Specimens in Pig Tissue and Piglet Inoculation

Case No.	Specimen	Isolation	Isolation	Isolation	Isolation
1	Small intestine	+	+	+	+
2	Small intestine	+	+	+	+
3	Small intestine	+	+	+	+
4	Small intestine	+	+	+	+
5	Small intestine	+	+	+	+
6	Small intestine	+	+	+	+
7	Small intestine	+	+	+	+
8	Small intestine	+	+	+	+
9	Small intestine	+	+	+	+
10	Small intestine	+	+	+	+
11	Small intestine	+	+	+	+
12	Small intestine	+	+	+	+
13	Small intestine	+	+	+	+
14	Small intestine	+	+	+	+
15	Small intestine	+	+	+	+
16	Small intestine	+	+	+	+
17	Small intestine	+	+	+	+
18	Small intestine	+	+	+	+
19	Small intestine	+	+	+	+
20	Small intestine	+	+	+	+
21	Small intestine	+	+	+	+
22	Small intestine	+	+	+	+
23	Small intestine	+	+	+	+
24	Small intestine	+	+	+	+
25	Small intestine	+	+	+	+
26	Small intestine	+	+	+	+
27	Small intestine	+	+	+	+
28	Small intestine	+	+	+	+
29	Small intestine	+	+	+	+
30	Small intestine	+	+	+	+

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TABLE 5. Proportion of Positive Results on Specimens of Intestines of Experimental Pigs and on Cell Culture

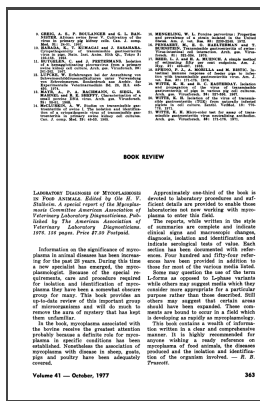
Case No.	Intestine	Isolation	Isolation	Isolation	Isolation
1	Small intestine	+	+	+	+
2	Small intestine	+	+	+	+
3	Small intestine	+	+	+	+
4	Small intestine	+	+	+	+
5	Small intestine	+	+	+	+
6	Small intestine	+	+	+	+
7	Small intestine	+	+	+	+
8	Small intestine	+	+	+	+
9	Small intestine	+	+	+	+
10	Small intestine	+	+	+	+
11	Small intestine	+	+	+	+
12	Small intestine	+	+	+	+
13	Small intestine	+	+	+	+
14	Small intestine	+	+	+	+
15	Small intestine	+	+	+	+
16	Small intestine	+	+	+	+
17	Small intestine	+	+	+	+
18	Small intestine	+	+	+	+
19	Small intestine	+	+	+	+
20	Small intestine	+	+	+	+
21	Small intestine	+	+	+	+
22	Small intestine	+	+	+	+
23	Small intestine	+	+	+	+
24	Small intestine	+	+	+	+
25	Small intestine	+	+	+	+
26	Small intestine	+	+	+	+
27	Small intestine	+	+	+	+
28	Small intestine	+	+	+	+
29	Small intestine	+	+	+	+
30	Small intestine	+	+	+	+

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TABLE 6. Virus Isolation from Field Specimens in Pig Tissue and Piglet Inoculation

Case No.	Specimen	Isolation	Isolation	Isolation	Isolation
1	Small intestine	+	+	+	+
2	Small intestine	+	+	+	+
3	Small intestine	+	+	+	+
4	Small intestine	+	+	+	+
5	Small intestine	+	+	+	+
6	Small intestine	+	+	+	+
7	Small intestine	+	+	+	+
8	Small intestine	+	+	+	+
9	Small intestine	+	+	+	+
10	Small intestine	+	+	+	+
11	Small intestine	+	+	+	+
12	Small intestine	+	+	+	+
13	Small intestine	+	+	+	+
14	Small intestine	+	+	+	+
15	Small intestine	+	+	+	+
16	Small intestine	+	+	+	+
17	Small intestine	+	+	+	+
18	Small intestine	+	+	+	+
19	Small intestine	+	+	+	+
20	Small intestine	+	+	+	+
21	Small intestine	+	+	+	+
22	Small intestine	+	+	+	+
23	Small intestine	+	+	+	+
24	Small intestine	+	+	+	+
25	Small intestine	+	+	+	+
26	Small intestine	+	+	+	+
27	Small intestine	+	+	+	+
28	Small intestine	+	+	+	+
29	Small intestine	+	+	+	+
30	Small intestine	+	+	+	+

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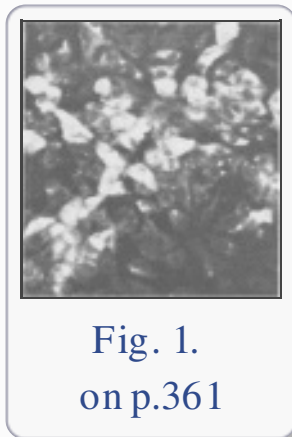


Fig. 1.
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Selected References

These references are in PubMed. This may not be the complete list of references from this article.

- Boulanger P, Bannister GL, Gray DP, Ruckerbauer GM, Willis NG. African swine fever. II. Detection of the virus in swine tissues by means of the modified direct complement-fixation test. *Can J Comp Med Vet Sci.* 1967 Jan;31(1):7–11. [[PMC free article](#)] [[PubMed](#)]
- Boulanger P, Bannister GL, Greig AS, Gray DP, Ruckerbauer GM, Willis NG. African swine fever. IV.

Demonstration of the viral antigen by means of immunofluorescence. *Can J Comp Med Vet Sci.* 1967 Jan;31(1):16–23. [[PMC free article](#)] [[PubMed](#)]

- Cartwright SF, Harris HM, Blandford TB, Fincham I, Gitter M. A cytopathic virus causing a transmissible gastroenteritis in swine. I. Isolation and properties. *J Comp Pathol.* 1965 Oct;75(4):387–396. [[PubMed](#)]
- Cartwright SF, Lucas M, Huck RA. A small haemagglutinating porcine DNA virus. I. Isolation and properties. *J Comp Pathol.* 1969 Jul;79(3):371–377. [[PubMed](#)]
- Dulac GC, Boulanger P, Phaneuf JB. Isolement du virus de la gastro-entérite transmissible du porc sur cultures cellulaires et comparaisons antigéniques avec deux souches américaines. *Can Vet J.* 1975 Mar;16(3):77–81. [[PMC free article](#)] [[PubMed](#)]
- DULBECCO R, VOGT M. Plaque formation and isolation of pure lines with poliomyelitis viruses. *J Exp Med.* 1954 Feb;99(2):167–182. [[PMC free article](#)] [[PubMed](#)]
- Greig AS, Boulanger P, Bannister GL. African swine fever. V. Cultivation of the virus in primary pig kidney cells. *Can J Comp Med Vet Sci.* 1967 Jan;31(1):24–31. [[PMC free article](#)] [[PubMed](#)]
- Huygelen C, Peetermans J. Isolation of a hemagglutinating picornavirus from a primary swine kidney cell culture. *Arch Gesamte Virusforsch.* 1967;20(2):260–262. [[PubMed](#)]
- Mayr A, Bachmann PA, Siegl G, Mahnel H, Sheffy BE. Characterization of a small porcine DNA virus. *Arch Gesamte Virusforsch.* 1968;25(1):38–51. [[PubMed](#)]
- MCCLURKIN AW. STUDIES ON TRANSMISSIBLE GASTROENTERITIS OF SWINE. I. THE ISOLATION AND IDENTIFICATION OF A CYTOPATHOGENIC VIRUS OF TRANSMISSIBLE GASTROENTERITIS IN PRIMARY SWINE KIDNEY CELL CULTURES. *Can J Comp Med Vet Sci.* 1965 Feb;29:46–53. [[PMC free article](#)] [[PubMed](#)]
- Mengeling WL. Porcine parvovirus: properties and prevalence of a strain isolated in the United States. *Am J*

Vet Res. 1972 Nov;33(11):2239–2248. [[PubMed](#)]

- Pensaert M, Haelterman EO, Burnstein T. Transmissible gastroenteritis of swine: virus-intestinal cell interactions. I. Immunofluorescence, histopathology and virus production in the small intestine through the course of infection. *Arch Gesamte Virusforsch.* 1970;31(3):321–334. [[PubMed](#)]
- Sprino PJ, Morilla A, Ristic M. Intestinal immune response of feeder pigs to infection with transmissible gastroenteritis virus. *Am J Vet Res.* 1976 Feb;37(2):171–175. [[PubMed](#)]
- Witte KH, Easterday BC. Isolation and propagation of the virus of transmissible gastroenteritis of pigs in various pig cell cultures. *Arch Gesamte Virusforsch.* 1967;20(3):327–350. [[PubMed](#)]
- Witte KH. Isolation of the virus of transmissible gastroenteritis (TGE) from naturally infected piglets in cell culture. *Zentralbl Veterinarmed B.* 1971 Dec;18(10):770–778. [[PubMed](#)]
- Witte KH. Micro-color test for assay of transmissible gastroenteritis virus-neutralizing antibodies. *Arch Gesamte Virusforsch.* 1971;33(1):171–176. [[PubMed](#)]

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