

EPIDEMIOLOGY AND INFECTION

FORMERLY THE
JOURNAL OF HYGIENE

EDITED BY

J. R. PATTISON

J. G. CRUICKSHANK C. R. MADELEY W. C. NOBLE

P. MORGAN-CAPNER

(ASSISTANT EDITOR)

IN CONJUNCTION WITH

M. J. ANDERSON

R. M. ANDERSON

R. D. BARRY

D. BAXBY

P. S. BRACHMAN

M. DEGRÉ

S. M. FEINSTONE

R. G. FINCH

R. J. GILBERT

P. D. GRIFFITHS

ANNA HAMBRAEUS

M. H. HINTON

J. C. DE JONG

J. B. KURTZ

M. J. LEWIS

D. H. LLOYD

R. R. MARPLES

O. H. MEURMAN

P. P. MORTIMER

J. NAIDOO

J. S. OXFORD

B. ROWE

M. B. SKIRROW

R. S. TEDDER

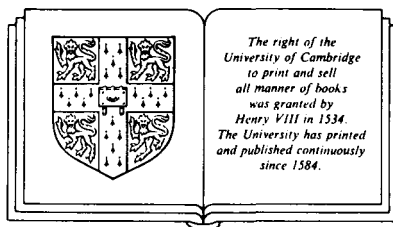
H. E. TILLET

R. VAN DER WAAIJ

P. J. WILKINSON

A. T. WILLIS

VOLUME 101, 1988



CAMBRIDGE UNIVERSITY PRESS

Cambridge

New York New Rochelle Melbourne Sydney

Published by the Press Syndicate of the University of Cambridge
The Pitt Building, Trumpington Street, Cambridge CB2 1RP
32 East 57th Street, New York, NY 10022, USA
10 Stamford Road, Oakleigh, Melbourne 3166, Australia

© Cambridge University Press 1988

Printed in Great Britain by the University Press, Cambridge

Contents

No. 1 (AUGUST 1988)

SPECIAL ARTICLE. NOKES, D. J. and ANDERSON, R. M. The use of mathematical models in the epidemiological study of infectious diseases and in the design of mass immunization programmes	1
PETHER, J. V. S., LIGHTFOOT, N. F., SCOTT, R. J. D., MORGAN, J., STEELE-PERKINS, A. P. and SHEARD, S. C. Carriage of <i>Neisseria meningitidis</i> : investigations in a military establishment	21
EDWARDS, A. T., ROULSON, M. and IRONSIDE, M. J. A milk-borne outbreak of serious infection due to <i>Streptococcus zooepidemicus</i> (Lancefield Group C)	43
GREENWOOD, M. H. and HOOPER, W. L. The use of alkalinity and incubation at 9 °C for improved recovery of <i>Yersinia</i> spp. from faeces	53
PHILIPS, A. P., MORRIS, B. C., HALL, D., GLENISTER, M. and WILLIAMS, J. E. Identification of encapsulated and non-encapsulated <i>Yersinia pestis</i> by immunofluorescence tests using polyclonal and monoclonal antibodies	59
CHAPMAN, P. A., RHODES, P. and RYLANDS, W. <i>Salmonella typhimurium</i> phage type 141 infections in Sheffield during 1984 and 1985: association with hens' eggs	75
MORGAN, G. M., NEWMAN, C., PALMER, S. R., ALLEN, J. B., SHEPHERD, W., RAMPLING, A. M., WARREN, R. E., GROSS, R. J., SCOTLAND, S. M. and SMITH, H. R. First recognized community outbreak of haemorrhagic colitis due to verotoxin-producing <i>Escherichia coli</i> O 157.H7 in the UK	83
KWAGA, J. K. P., UMOH, J. U. and ODOBA, M. B. <i>Cryptosporidium</i> infections in humans with gastroenteritis in Zaria, Nigeria	93
DEIGHTON, M. A., FRANKLIN, J. C., SPICER, W. J. and BALKAU, B. Species identification, antibiotic sensitivity and slime production of coagulase-negative staphylococci isolated from clinical specimens	99
REILLY, W. J., FORBES, G. I., SHARP, J. C. M., OBOEGBULEM, S. I., COLLIER, P. W. and PATERSON, G. M. Poultry-borne salmonellosis in Scotland	115
CRAVIOTO, A., REYES, R. E., ORTEGA, R., FERNÁNDEZ, G., HERNÁNDEZ, R. and LOPEZ, D. Prospective study of diarrhoeal disease in a cohort of rural Mexican children: incidence and isolated pathogens during the first two years of life	123
HEINZE, J. E. and YACKOVICH, F. Washing with contaminated bar soap is unlikely to transfer bacteria	135
DAS, A. M., PARANJAPE, V. L. and PITT, T. L. <i>Serratia marcescens</i> infection associated with early abortion in cows and buffaloes	143
ABECK, D., JOHNSON, A. P. and TAYLOR-ROBINSON, D. Antigenic analysis of <i>Haemophilus ducreyi</i> by Western blotting	151
BURGESS, P. J., FINE, P. E. M., PONNIGHAUS, J. M. and DRAPER, C. Serological tests in leprosy. The sensitivity, specificity and predictive value of ELISA tests based on phenolic glycolipid antigens, and the implications for their use in epidemiological studies	159
HARENAPE, J. M., WILKINSON, P. J. and MELLOR, P. S. Isolation of African swine fever	

virus from ticks of the <i>Ornithodoros moubata</i> complex (Ixodoidea: Argasidae) collected within the African swine fever enzootic area of Malawi	173
KANGRO, H. O., WARD, A., ARGENT, S., HEATH, R. B., CRADOCK-WATSON, J. E. and RIDEHALGH, M. K. S. Detection of specific IgM in varicella and herpes zoster by antibody-capture radioimmunoassay	187

No. 2 (OCTOBER 1988)

Notice to Contributors – Change of Style

SPECIAL ARTICLE. MORTIMER, P. P. and PARRY, J. V. The use of saliva for viral diagnosis and screening	197
BURNIE, J. P. and LEE, W. A comparison of DNA and immunoblot fingerprinting of the SII biotype of coagulase negative staphylococci	203
NISHIKAWA, Y. and KISHI, T. Isolation and characterization of motile <i>Aeromonas</i> from human, food and environmental specimens	213
YATES, M. D. and GRANGE, J. M. Incidence and nature of human tuberculosis due to bovine tubercle bacilli in South-East England: 1977–1987	225
MAHMOOD, K. H., STANFORD, J. L., MACHIN, S., WATTS, M., STUART, F. A. and PRITCHARD, D. G. The haematological values of European badgers (<i>Meles meles</i>) in health and in the course of tuberculosis infection	231
CHAPMAN, P. A. and MITCHELMORE, D. L. A two-year survey of the incidence of heat-labile enterotoxin-producing <i>Escherichia coli</i> and other enteric pathogens in travellers returning to the Sheffield area	239
CARTWRIGHT, K. A. V. and EVANS, B. G. Salmon as a food-poisoning vehicle – two successive salmonella outbreaks	249
WHELAN, C. D., MONAGHAN, P., GIRDWOOD, R. W. A. and FRICKER, C. R. The significance of wild birds (<i>Larus</i> sp.) in the epidemiology of campylobacter infections in humans	259
TOMPKINS, D. S., WYATT, J. I., RATHBONE, B. J. and WEST, A. P. The characterization and pathological significance of gastric campylobacter-like organisms in the ferret: a model for chronic gastritis?	269
ARIMI, S. M., FRICKER, C. R. and PARK, R. W. A. Occurrence of ‘thermophilic’ campylobacters in sewage and their removal by treatment processes	279
MAWER, S. L. Campylobacters in man and the environment in Hull and East Yorkshire	287
MAWER, S. L. The pathogenicity of environmental campylobacters – a human volunteer experiment	295
LAW, M. R., GILL, O. N. and TURNER, A. Methicillin-resistant <i>Staphylococcus aureus</i> : associated morbidity and effectiveness of control measures	301
TAMURA, K., SAKAZAKI, R., KURAMOCHI, S. and NAKAMURA, A. Occurrence of H-antigen z ₆₆ of R phase in cultures of <i>Salmonella</i> serovar typhi originated from Indonesia	311
GRASSO, G. M., D’ERRICO, M. M., SCHIOPPA, F., ROMANO, F. and MONTANARO, D. Use of colistin and sorbitol for better isolation of <i>Serratia marcescens</i> in clinical samples	315

HUBÁLEK, Z. and HALOUZKA, J. Thermal sensitivity of <i>Clostridium botulinum</i> type C toxin	321
KLEANTHOUS, H., FRY, N. K., SMITH, H. R., GROSS, R. J. and ROWE, B. The use of sorbitol-MacConkey agar in conjunction with a specific antiserum for the detection of Vero cytotoxin-producing strains of <i>Escherichia coli</i> O 157	327
MATTILA, T., FROST, A. J. and O'BOYLE, D. The growth of salmonella in rumen fluid from cattle at slaughter	337
GRAY, B. M., PRITCHARD, D. G., SPRINGFIELD, J. D., BENAK, R. J. and DILLON JR., H. C. Seroepidemiology of group B streptococcus type II antibody specificity	347
MELO CRISTINO, J. A. G., CARVALHO, M. I. P. and SALGADO, M. J. An outbreak of cryptosporidiosis in a hospital day-care centre	355
TILLET, H. E., WRIGHT, A. E. and EATON, S. Water quality control trials: statistical tables for direct comparison between membrane filtration bacterial counts and the multiple tube method with a description of the bacteriological method	361
TEBBUTT, G. M. Laboratory evaluation of disposable and reusable disinfectant cloths for cleaning food contact surfaces	367
LIND, K. and BENTZON, M. W. Changes in the epidemiological pattern of <i>Mycoplasma pneumoniae</i> infections in Denmark. A 30 years survey	377
WREGHITT, T. G., ROBINSON, V. J., CAUL, E. O., PAUL, I. D. and GATLEY, S. The development and evaluation of a μ -capture ELISA detecting chlamydia-specific IgM	387
HOBSON, D. and MORGAN-CAPNER, P. Chlamydial antibodies in farmers in north-west England	397
LAU, R. C. H. Antibody level of New Zealand children immunized with the tripe vaccine DTP (diphtheria-tetanus-pertussis)	405
HANSMAN, D. and MORRIS, S. Pneumococcal carriage amongst children in Adelaide, South Australia	411
REID, T. M. S., GOULD, I. M., MACKIE, I. M., RITCHIE, A. H. and HOBBS, G. Food poisoning due to the consumption of red whelks (<i>Neptunea antiqua</i>)	419
SPENCER, E., ARAYA, M., SANDINO, A. M., PACHECO, I. and BRUNSER, O. Faecal excretion of rotavirus and other enteropathogens in newborns of the high and low socio-economic stratum in Santiago, Chile	425
MIRCHAMSY, H., SHAFYI, A., NAZARI, P., ASHTIANI, M. P. and SASSANI, A. Evaluation of live attenuated measles vaccines prepared in human diploid cells for reimmunization	437
WILLCOCKS, M. M., CARTER, M. J., LAIDLER, F. R. and MADELEY, C. R. Restriction enzyme analysis of faecal adenoviruses in Newcastle upon Tyne	445
GLASS, G. E., CHILDS, J. E., KORCH, G. W. and LEDUC, J. W. Association of intraspecific wounding with hantaviral infection in wild rats (<i>Rattus norvegicus</i>)	459
JENKS, P. J., CAUL, E. O. and ROOME, A. P. C. H. Maternally derived measles immunity in children of naturally infected and vaccinated mothers	473
BLACK, L. and FRANCIS, M. J. Potential allergens in oil emulsion foot-and-mouth disease vaccines for pigs	477

HUMPHREY, T. J., MEAD, G. C. and ROWE, B. Erratum. Poultry meat as a source of human salmonellosis in England and Wales	481
-----------------------------------------------------------------------------------------------------------------------------------	-----

Notes for Contributors

No. 3 (DECEMBER 1988)

TAYLOR, D. L., TAYLOR-ROBINSON, D., JEFFRIES, D. J. and TYMS, A. S. Characterization of cytomegalovirus isolates from patients with AIDS by DNA restriction analysis	483
EL-MEKKI, A., DEVERAJAN, L. V., SOUFI, S., STRANNEGARD, O. and AL-NAKIB, W. Specific and non-specific serological markers in the screening for congenital CMV infection	495
ADRIAN, T., SCHÄFER, G., COONEY, M. K., FOX, J. P. and WIGAND, R. Persistent enteral infections with adenovirus types 1 and 2 in infants: no evidence of reinfection	503
SELLERS, R. F. and MAAROUF, A. R. Impact of climate on western equine encephalitis in Manitoba, Minnesota and North Dakota, 1980-1983	511
STEELE, K., SHIRODARIA, P. V., PFISTER, H., POLLOCK, B., FUCHS, P., MERRETT, J. D., IRWIN, W. G. and SIMPSON, D. I. H. A study of HPV 1, 2 and 4 antibody prevalence in patients presenting for treatment with cutaneous warts to general practitioners in N. Ireland	537
WILKINSON, P. J., PEGRAM, R. G., PERRY, B. D., LEMCHE, J. and SCHELS, H. F. The distribution of African swine fever virus isolated from <i>Ornithodoros moubata</i> in Zambia	547
LESCHINSKAYA, N. P., POKROVSKAYA, E. E., KANTOROVITCH, E. A., GRIGORJEVA, S. K. and SHVARTSMAN, YA. S. Ontogenesis of the formation of secretory antibodies to respiratory syncytial (RS) virus	565
SAMUEL, A. R., KNOWLES, N. J. and KITCHING, R. P. Serological and biochemical analysis of some recent type A foot-and-mouth disease virus isolates from the Middle East	577
THOMAS, H. I. J. and MORGAN-CAPNER, P. Rubella-specific IgG subclass avidity ELISA and its role in the differentiation between primary rubella and rubella reinfection	591
THOMAS, H. I. J. and MORGAN-CAPNER, P. Rubella-specific IgG subclass concentrations in sera using an enzyme-linked immunosorbent assay (ELISA): the effect of different sources of rubella antigen	599
TRIVELLO, R., RENZULLI, G., FARISANO, G., BONELLO, C., MOSCHEN, M., GASPARINI, V. and BENUSSI, G. Persistence of poliovirus-neutralizing antibodies 2-16 years after immunization with live attenuated vaccine. A seroepidemiologic survey in the mainland of Venice	605
TANNOCK, G. A., GILLETT, S. M., GILLETT, R. S., BARRY, R. D., HENSLEY, M. J., HERD, R., REID, A. L. A. and SAUNDERS, N. A. A study of intranasally administered interferon A* (rIFN- α 2A) for the seasonal prophylaxis of natural viral infections of the upper respiratory tract in healthy volunteers	611
LAW, M. R. and GILL, O. N. Hospital-acquired infection with methicillin-resistant and methicillin-sensitive staphylococci	623
YAMASHITA, T., SAKAE, K., ISHIHARA, Y., ISOMURA, S. and INOUE, H. Virucidal effect of chlorinated water containing cyanuric acid	631

BARNHAM, M. Pig bite injuries and infection : report of seven human cases	641
RUF, B., SCHÜRMAN, D., HORBACH, I., SEIDEL, K. and POHLE, H. D. Nosocomial legionella pneumonia : demonstration of potable water as the source of infection	647
WEINKE, TH., UEBERREITER, K. and ALEXANDER, M. Cardiac morbidity due to Chagas' disease in a rural community in Bolivia	655
COLLIER, P. W., SHARP, J. C. M., MACLEOD, A. F., FORBES, G. I. and MACKAY, F. Food poisoning in hospitals in Scotland, 1978-87	661
KOK, T. W., VARKANIS, G., MARMION, B. P., MARTIN, J. and ESTERMAN, A. Laboratory diagnosis of <i>Mycoplasma pneumoniae</i> infection. 1. Direct detection of antigen in respiratory exudates by enzyme immunoassay	669
HARRIS, R., MARMION, B. P., VARKANIS, G., KOK, T., LUNN, B. and MARTIN, J. Laboratory diagnosis of <i>Mycoplasma pneumoniae</i> infection. 2. Comparison of methods for the direct detection of specific antigen or nucleic acid sequences in respiratory exudates	685
Notes for Contributors	

Continued from back cover

A study of intranasally administered interferon A* (rIFN-α2A) for the seasonal prophylaxis of natural viral infections of the upper respiratory tract in healthy volunteers	
Tannock, G. A., Gillett, S. M., Gillett, R. S., Barry, R. D., Hensley, M. J., Herd, R., Reid, A. L. A. and Saunders, N. A.	611
Hospital-acquired infection with methicillin-resistant and methicillin-sensitive staphylococci	
Law, M. R. and Gill, O. N.	623
Virucidal effect of chlorinated water containing cyanuric acid	
Yamashita, T., Sakae, K., Ishihara, Y., Isomura, S. and Inoue, H.	631
Pig bite injuries and infection: report of seven human cases	
Barnham, M.	641
Nosocomial legionella pneumonia: demonstration of potable water as the source of infection	
Ruf, B., Schürmann, D., Horbach, I., Seidel, K. and Pohle, H. D.	647
Cardiac morbidity due to Chagas' disease in a rural community in Bolivia	
Weinke, Th., Ueberreiter, K. and Alexander, M.	655
Food poisoning in hospitals in Scotland, 1978-87	
Collier, P. W., Sharp, J. C. M., MacLeod, A. F., Forbes, G. I. and Mackay, F.	661
Laboratory diagnosis of <i>Mycoplasma pneumoniae</i> infection. 1. Direct detection of antigen in respiratory exudates by enzyme immunoassay	
Kok, T. W., Varkanis, G., Marmion, B. P., Martin, J. and Esterman, A.	669
Laboratory diagnosis of <i>Mycoplasma pneumoniae</i> infection. 2. Comparison of methods for the direct detection of specific antigen or nucleic acid sequences in respiratory exudates	
Harris, R., Marmion, B. P., Varkanis, G., Kok, T., Lunn, B. and Martin, J.	685
Notes for Contributors	

Epidemiology and Infection

(Formerly the Journal of Hygiene)

Original reports and reviews on all aspects of
infection of man and animals

CONTENTS

- Characterization of cytomegalovirus isolates from patients with AIDS by DNA restriction analysis**
Taylor, D. L., Taylor-Robinson, D., Jeffries, D. J. and Tyms, A. S. 483
- Specific and non-specific serological markers in the screening for congenital CMV infection**
El-Mekki, A., Deverajan, L. V., Soufi, S., Strannegard, O. and Al-Nakib, W. 495
- Persistent enteral infections with adenovirus types 1 and 2 in infants: no evidence of reinfection**
Adrian, T., Schäfer, G., Cooney, M. K., Fox, J. P. and Wigand, R. 503
- Impact of climate on western equine encephalitis in Manitoba, Minnesota and North Dakota, 1980–1983**
Sellers, R. F. and Maarouf, A. R. 511
- A study of HPV 1, 2 and 4 antibody prevalence in patients presenting for treatment with cutaneous warts to general practitioners in N. Ireland**
Steele, K., Shirodaria, P. V., Pfister, H., Pollock, B., Fuchs, P., Merrett, J. D., Irwin, W. G. and Simpson, D. I. H. 537
- The distribution of African swine fever virus isolated from *Ornithodoros moubata* in Zambia**
Wilkinson, P. J., Pegram, R. G., Perry, B. D., Lemche, J. and Schels, H. F. 547
- Ontogenesis of the formation of secretory antibodies to respiratory syncytial (RS) virus**
Leschinskaya, N. P., Pokrovskaya, E. E., Kantorovitch, E. A., Grigorjeva, S. K. and Shvartsman, Ya. S. 565
- Serological and biochemical analysis of some recent type A foot-and-mouth disease virus isolates from the Middle East**
Samuel, A. R., Knowles, N. J. and Kitching, R. P. 577
- Rubella-specific IgG subclass avidity ELISA and its role in the differentiation between primary rubella and rubella reinfection**
Thomas, H. I. J. and Morgan-Capner, P. 591
- Rubella-specific IgG subclass concentrations in sera using an enzyme-linked immunosorbent assay (ELISA): the effect of different sources of rubella antigen**
Thomas, H. I. J. and Morgan-Capner, P. 599
- Persistence of poliovirus-neutralizing antibodies 2–16 years after immunization with live attenuated vaccine. A seroepidemiologic survey in the mainland of Venice**
Trivello, R., Renzulli, G., Farisano, G., Bonello, C., Moschen, M., Gasparini, V. and Benussi, G. 605

Continued inside back cover

Cambridge University Press

The Pitt Building, Trumpington Street, Cambridge CB2 1RP
32 East 57th Street, New York, NY 10022, USA
10 Stamford Road, Oakleigh, Melbourne, 3166, Australia

© Cambridge University Press 1988
Printed in Great Britain by the University Press, Cambridge