

REFERENCES

- Al-Barrak A.; Embil J.; Dyck B.; Olekson K.; Nicoll D.; Alfa M. and Kabani A. (1999) :**
An outbreak of toxin A- negative, toxin B-positive *Clostridium difficile*- associated diarrhea in a Canadian tertiary- care hospital.
Canada Communicable Dis. Rep.; 25 (7) : 1-3.
- Al-Eidan F.A.; McElnay J.C.; Scott M.G. and Kearney M.P. (2000) :**
Clostridium difficile associated diarrhea in hospitalized patients.
Journal of clinical Pharmacy and Therapeutics. 25 : 101-109.
- Alfa M.J.; Kabani A.; Lyerly D.; Moncrief S.; Neville L.M.; Al-Barrak A.; Harding G.K.H.; Dyck B.; Olekson K. and Embil J. (2000) :**
Characterization of toxin A – negative , toxin B- positive strain of *Clostridium difficile* responsible for a nosocomial outbreak of *Clostridium difficile*- associated diarrhea.
J.Clin. Microbiol. 74 : 150-154.
- Anade A.; Bashey A.; Mir T. and Glatt A.E. (1994) :**
Epidemiology, clinical manifestations and outcome of *Clostridium difficile*- associated diarrhea.
Am. J. Gastroenterol.; 89 : 512-23.
- Aronsson B.; Mollyby R. and Nord C.E. (1985) :**
Antimicrobial agents and *Clostridium difficile* in acute enteric disease :epidemiological data from Jweden.
J. Infect. Dis.; 151-176.
- Bannam T.L.; Crellin P.K. and Rood J.I. (1995) :**
Molecular genetics of the chloramphenicol resistance transposon Tn 4451 from *C. perfringens* : the Tnp_x site-specific recombinase excises a circular transposon molecule.
Mol. Microbiol.; 16 : 535-551.
- Barbut F.; Sedallian A. and Petit J.C. (1995) :**
Value of routine stool cultures in hospitalized patients with diarrhea.
Eur. J. Clin. Microbiol. Infect. Dis.; 14 : 346-349.

- Bartlett J.G. (1978) :**
Role of *Clostridium difficile* in antibiotic associated pseudo-membraneous colitis.
Gastroenterology. 75 : 778-82.
- Bartlett J.G. (1990) :**
Clostridium difficile Clinical consideration.
Rev. Infect. Dis.; 12 : 52-58.
- Bartlett J.G. (1994) :**
Clostridium difficile : history of its role as enteric pathogen and the current state of knowledge about the organism.
Clin. Infect. Dis.; 18 (suppl. 4) : 5265-72.
- Bartley S.L. and Dowell V.R. (1991) :**
Comparison of media for the isolation of *C.difficile* from fecal specimens.
J. Clin. Pathol.; 22 : 335-8-
- Bennet R.; Eriksson M.; Tafarin N. and Nord C.E. (1991) :**
Intestinal bacteria of newborn Ethiopian infants in relation to antibiotic treatment and colonization by potentially pathogenic gram-negative bacteria.
Scand. J. Infect. Dis.; 23 : 63-69.
- Bliss D.Z.; Johnson S.; Savik K.; Clabots C.R. and Gerding D.N. (1998):**
Acquisition of *C.difficile* and *C.difficile* associated diarrhea in hospitalized patients receiving tube feeding.
Ann. Intern. Med.; 129 : 1012-1019.
- Bolton R.P. and clushaw M.A. (1986) :**
Fecal metronidazole concentrations during oral and intravenous therapy for antibiotic associated colitis due to *Clostridium difficile*.
Gut. 183: 1169-72.
- Boone N.; Eagan J.A.; Gillern P.; Armstronge D. and Jepkowitz K.A. (1998) :**
Evaluation of an interdisciplinary re-isolation policy for patients with previous *Clostridium difficile* diarrhea.
Am. J. Infect. Control. 26 (6): 584-7.

- Borriello S.P. (1990) :**
Pathogenesis of *Clostridium difficile* infection of the gut.
J. Med. Microbiol.; 33 : 207-15.
- Borriello S.P. and Honour P. (1981) :**
Simplified procedure for the routine isolation of *C.difficile* from faeces.
J. Clin. Pathol.; 34 : 1129-7.
- Borriello S.P.; Wren B.W. and Hyde S. (1992) :**
Molecular, immunological and biological characterization of a toxin A- negative toxin B- positive strain of *C.difficile*
Infect. Immun.; 60 : 4192-9.
- Brachman P.S. and Eichhoff T.C. (Eds) (1992) :**
Proc. Int. Conf. On nosocomial infections.
American Hospital Association, Chicago.
- Brar H.S. and Surawicz C.M. (2000) :**
Pseudomembranous colitis : an update. Can.
J. Gastroenterol.; 14 (1) : 51-6.
- Brazier J.S. (1993) :**
Role of laboratory investigations of *Clostridium difficile* diarrhea.
Clin. Infect. Dis.; 16 (Suppl 4) : S228-33.
- Brooks G.F.; Butel J. and Morse S.A. (1998) :**
Normal microbial flora of the human body.
In : Medical Microbiology. 21th edition. Chap.: 11 pp.: 177-181. Ed. : Jawetz, Melnick and Adel berg. Pub.: A Simon & Schuster Company.
- Brown E.; Tibot G.H.; Axelord P.; Provencher M. and Hoegg C. (1990):**
Risk factors for *C.difficile* toxin associated diarrhea. Infect. Control Hosp. Epidemiol.; 11 : 283-90.
- Brynestead S. and Granum P.E. (1999) :**
Evidence that Tn5565, which includes the enterotoxin gene in *Clostridium perfringens*, can have a circular form which may be a transposition intermediate.
FEMS Microbiol. Lett. 170 : 281-286.

- Buchner A.M. and Sonnenberg A. (2001) :**
Medical diagnosis and procedures associated with *Clostridium difficile* colitis.
Am. J. Gastroenterol.; 96 (3): 766-72.
- Bullifent H.L.; Moir A. and Titball R.W. (1995) :**
The construction of a reporter system and use for the investigation of *Clostridium perfringens* gene expression.
FEMS Microbiol.; 131: 99-105.
- Calderon G.M; Lopez J.T.; Lin T.J.; Chavez B.; Hernandez M.; Munoz O.; Befus A.D. and Enciso J.A. (1999) :**
Effects of toxin A from *Clostridium difficile* on mast cell activation and survival.
Infection and Immunity. 2755-2761.
- Cartmill T.D.; Panigrahi H.; Worsley M.A.; McConn D.C.; Nice C.N. and Keith E. (1994) :**
Management and control of a large outbreak of diarrhea due to *Clostridium difficile*.
J. Hosp. Infect.; 27 : 1-15.
- Catagliuolo I.; Valenick L.; Riegler M.; LaMont J.T. and Pothoulakis C. (1998) :**
Oligosaccharides containing sialic acid and N-acetylglucosamine mediate *Clostridium difficile* toxin B binding and biological effects in human colonic mucosa.
Gastroenterology. 114 : A949 (Abstract).
- Clabots C.R.; Johnson S.; Olson M.M.; Peterson L.R. and Gerding D.N. (1992) :**
Acquisition of *C.difficile* by hospitalized patients : evidence for colonized new admissions as the source of infection.
J. Infect. Dis.; 16 : 561-7.
- Cleary R.K. (1998) :**
Clostridium difficile associated diarrhea and colitis : Clinical manifestations, diagnosis and treatment.
Dis. Colon. Rectum. 41 (11) : 1435-49.
- Cohen J.H.; Tang Y.J.; Hansen B. and Silva J. (1998) :**
Isolation of toxin B-deficient mutant strain of *Clostridium difficile* in a case of recurrent *C.difficile* associated diarrhea.
Clin. Infect. Dis.; 26 (2) : 410-412.

Crellin P.K. and Rood J.I. (1997) :

The resolvase invertase domain of the site-specific recombinase TnpX is functional and recognizes a target sequence that resembles the junction of the circular form of the *Clostridium perfringens* transposon Tn4451.
J.Bacteriology. 179 : 5148-5156.

Cunha B.A. (1998) :

Nosocomial diarrhea.
Crit. Care. Clin.; 14 (2) : 329-38.

Dagata E.M.; Mount D.B.; Thayer V. and Schaffner W. (2000) :

Hospital acquired infections among chronic hemodialysis patients.
Am. J.Kidney Dis.; 35 (6) : 1083-8. (abst.).

Danielsson O.; Lambe O.N. and Persson S. (1972) :

The immune response in a patient to an infection with *Bacteroides Fragilis* subspecies fragilis and *Clostridium difficile*.
Act. Path. Microbiol. Scand.; 80 : 709-713.

Dearing W.H.; Baggenstoss A.H. and Weed L.A. (1960) :

Studies on the relationship of *Staphylococcus aureus* to pseudo-membraneous enteritis and to post-antibiotic enteritis.
Gastroenterology. 38: 441-451.

DeLalla F.; Nicolin R. and Rinaldi E. (1993) :

Prospective study of oral teicoplanin versus oral vancomycin for therapy of pseudomembraneous colitis and *Clostridium difficile*- associated diarrhea.
Antimicrobial Agents Chemother.; 36 : 2192-6.

Delmee M. (2001) :

Laboratory diagnosis of *Clostridium difficile* disease. Clin. Microbiol. Infect.; 7(8) : 411-16.

Delmee M.; Bulliard G. and Simon G. (1986) :

Application of a technique for serogrouping *Clostridium difficile* in an outbreak of antibiotic- associated diarrhea.
Journal of Infection. 13 : 5-9.

- Delmee M.; Depitre C.; Corthier G.; Ahoyo A. and Avesani V. (1993) :**
 Use of an enzyme linked immunoassay for *Clostridium difficile* serogrouping.
 Journal of Clinical Microbiology. 31 : 2526-2528.
- Depitre C.; Delmee M.; Avesani V.; Haridon R.; Roels A.; Poposs M. and Corthier G. (1993) :**
 Serogroup F strains of *Clostridium difficile* produce toxin B but not toxin A.
 J. Med. Microbiol.; 38 : 438-441.
- DoAn F.; Fridkin S.K.; Yechoron A. and Banerjee S.N. (1998) :**
 Risk factors for early recurrent *C.difficile* associated diarrhea.
 Clin. Infect. Dis.; 26 (4) : 960.
- Dodson A.P. and borriello S.P. (1996) :**
Clostridium difficile infection of the gut.
 J.Clin. Pathol.; 46 : 529-532.
- Dove C.H.; Wang S.Z.; Price S.B.; Phelbs C.J.; Lyerly D.M. and Wilkins T.D. (1990) :**
 Molecular characterization of the *Clostridium difficile* toxin A gene.
 Infect. Immun.; 58:480-8.
- Duerden B.I.; McCartney A.C.; Borriello S.P.; Cowden J.M.; Hundson M.J. and Painter M.J. (1994) :**
 Report of PHLS *C.difficile* working group.
 PHLS Microbiol. Dig.; 11 : 22-4.
- Fekety R. (1995) :**
 Antibiotic- associated colitis.
 In : Principles and practice of infectious diseases. 4th edition, chap. 78, pp. : 978-987. Ed. : Mandell G.L.; Bennett J.E. and Dolin R. Pub. : Churchill Livingstone, New York.
- Fekety R. (1996) :**
 Antibiotic-associated colitis.
 In : Principles and Practice of Infectious Diseases. 5th edition, chap. 40, pp. 806-817. Ed. : Mandell G.L.; Bennett J.E. and Dolin R. Pub. : Churchill Living stone, New York.

- Fekety R. (1997):**
Guidelines for diagnosis and management of *Clostridium difficile* associated diarrhea and colitis.
Am. J. Gastroenterol; 92 (5) : 239-250.
- Fekety R. and Shah A.B. (1993) :**
Diagnosis and treatment of *C.difficile* colitis.
JAMA; 269 : 71-5.
- Fekety R.; Kin K.H. and Brown D.H. (1981) :**
Epidemiology of antibiotic associated diarrhea.
Am. J. Med.; 70 : 906-910.
- Fekety R.; McFarland L.V.; Surawicz C.M.; Greenberg R.N.; Elmer G.W. and Mulligan M.E. (1997) :**
Recurrent *C.difficile* diarrhea : Characteristics of and risk factors for patients Enrolled in a Prospective, Randomized, Double-Blinded Trial.
Clinical Infectious Diseases. 24 : 324-33.
- Finney J.M.T. (1893) :**
Gastroenterology for cicatrizing ulcer of the pylorus.
Bull. Johns Hopkins Hosp. 4 : 53.
- Fiorentinii C.; Fabbri A. and Flazano L. (1998).:**
C.difficile toxins induce apoptosis in intestinal cultured cells.
Infect. Immune.; 66 (6) : 2660-5.
- Fiorentini C.; Malorni W.; Paradisi S. and Donelli G. (1990) :**
Interaction of *Clostridium difficile* toxin A with cultured cells : cytoskeletal changes and nuclear polarization.
Infect. Immune.; 58: 2329-36.
- Fischetti V.A.; Novick R.P.; Ferretti J.J.; Portnoy D.A. and Rood J.I. (2000) :**
Enterotoxigenic clostridia.
In :Gram-positive pathogens chap. 57, pp. 556-560. Pub.: ASM Press, Washington.
- Frost F.; Craun G.F. and Galderon R.L. (1998) :**
Increasing hospitalization and death possibly due to *C.difficile* diarrheal disease.
Emerg. Infect. Dis.; 4 (4) : 619-25.

- Frost F.; Hurley J.S. Peterson H.V. and Casciano R.N. (1999) :**
Estimated incidence of *C.difficile* infection.
Emerg. Infect. Dis.; 5 (2) ; 303-4.
- Gartler S.M. (1967) :**
Genetic marker as tracer in tissue cultures.
National Cancer Institute Monograph U.S.A., 26 : 167-195.
- George W.L.; Sutter V.L.; Cirtron D. and Finegold S.M. (1979) :**
Selective and differential medium for isolation of
Clostridium difficile.
Journal of Clinical Microbiology. 9 : 214-219.
- Gerding D.N.; Johnson S.; Peterson L.R.; Mulligan M.E. and Silva J.C. (1995) :**
C.difficile associated diarrhea and colitis.
Infect. Control Hosp. Epidemiol; 16 : 459-77.
- Gerding D.N.; Olson M.M. and Peterson L.R. (1986) :**
C.difficile associated diarrhea and colitis in adults : a
prospective case controlled epidemiologic study.
Arch. Intern. Med.; 146 : 95-100.
- Giannasca P.J.; Zhang Z.X.; Lei W. and Thomas W.D. (1999) :**
Serum antitoxin antibodies mediate systemic and mucosal
protection from *C.difficile* disease in hamsters.
Infection and Immunity. 67(2) : 527-538.
- Good N.E.; Winget G.D.; Winder W.; Connolly T.N.; Isawa S. and Singh R.M.M. (1966) :**
Hydrogen iron buffers for virological research.
Biochemistry. 5 : 467-477.
- Gorbach J.L. (1987) :**
Successful treatment of relapsing *Clostridium difficile* colitis
with Lactobacillus GG.
Lancet. 2 : 1219.
- Gorenek L.; Dizer U.; Besirbeliogu R.; Eyigun C.P. and Vanthiel D.H. (1999) :**
The diagnosis and treatment of *C.difficile* in antibiotic
associated diarrhea.
Hepatogastroenterology; 46 (25) : 343-8.

- Green A. (1973) :**
Human biopsy material from genetic abnormalities.
In : Kruse P.F., Patterson M.K. (eds) tissue culture methods and applications. Academic Press, New York, pp. 69-72.
- Gumerlock P.H.; Tangy J.; Meyers F.J. and Silva J.R. (1991) :**
Use of, polymerase chain reaction for the specific and direct detection of *C.difficile* in human faeces.
Rev. Infect. Dis.; 13 : 1063-60.
- Hall I. And O'toole E. (1935) :**
Intestinal flora in newborn infants with description of a new pathogenic organism, bacillus difficilis.
Am. J. Dis. Child; 49 : 390-402.
- Hammond G.A. and Johnson J.L. (1995) :**
The toxigenic element of *Clostridium difficile* strain VPI. 10463 Microb.
Pathog.; 19 : 203-13.
- Hanna H.; Gonzalez V. and Champlin R. (2000) :**
C.difficile associated diarrhea among cancer patients.
Infect. Control. Hosp. Epidemiol.; 21 : 226-228.
- Hatherway C.L. and Johnson E.A. (1998) :**
Clostridium : The spore- bearing anaerobes.
In : Systemic Bacteriology, Topley & Wilson's principles of bacteriology, Virology, and immunity. 17th edition, Vol. 2, Chap. 32, pp. :762-82. Ed.; : Albert B., and Braim I.D. Pub. : Arnold Co., London.
- Hayflick L. (1965) :**
The limited invitro lifetime of human diploid cells strains.
Experimental cells research. 37 : 614-636.
- Heard S.R.; O'farrell S.; Wolland D.; Crook S. and Barnett U.J. (1986):**
The epidemiology of *C.difficile* with use of a typing scheme : Nosocomial acquisition and cross-infection among immuno compromised patients.
J.Infect. Dis.; 153 : 159-162.

- Henderson I.; Davis T.; Elmore M. and Minton N. (1997):**
The genetic basis of toxin production of *Clostridium botulinum* and *Clostridium Tetani*.
The clostridia, in : Molecular Biology and Pathogenesis. pp. 261-294. Eds :Rood J.; McClane B.; Songer J. and Titball R.
Pub.: Academic Press, Inc., London, U.K.
- Hirshhorn L.K.; Traka Y.; Onderdonk A.; Leem L.T. and Platt R. (1994) :**
Epidemiology of community acquired *C.difficile*- associated diarrhea.
J. Infect. Dis.; 169 : 127-33.
- Hogenauer C.; Hammer H.F. and Kregs G.J.(1998):**
Mechanisms and management of antibiotic-associated diarrhea.
Clin.Infect.Dis.;27:702-10.
- Hooker K.D. (1988) :**
Effect of antimicrobial therapy on bowel flora.
Clin. Pharm.; 7: 878-88.
- Hutin Y.; Molina J.M.; Sednaoui P. and Walker Y. (1993) :**
Risk factors for *C.difficile* associated diarrhea in HIV-infected patients.
AIDS. 7 : 1441-1447.
- ITO Y.; Moriwak Y.H.; Muto Y.; Kato N.; Watanabe K. and Uneo K. (1997) :**
Effect of lactulose on short chain fatty acids and lactate production and on the growth of fecal flora, with special references to *C.difficile*.
J.Med. Microbiol.; 46 : 80-84.
- Jamieson F.B.; Wang E.E.; Bain C.; Good J. and Petric M. (1998) :**
Human torovirus : a new nosocomial gastro-intestinal pathogen.
J.Infect. Dis.; 178 (5) : 1263-9.
- Johnson S.; Clabots C.R.; Linn F.V.; Oslon M.M. and Gerding D.N. (1990) :**
Nosocomial *C.difficile* colonization and disease.
Lancet; 336 : 97-100.

- Johnson J.L. and Francis B.S. (1975) :**
 Toxonomy of the clostridia: ribosomal acid homologies among the species.
 J. Gen. Microbiol.; 88: 229-244.
- Johnson S. and Gerding D. (1998) :**
Clostridium difficile.
 In : Hospital Epidemiology and Infection Control. 3rd edition, chap. 23, pp. : 399-408. Eds : Mayball C.G. Pub : Williams & Wilkins, Baltimore.
- Katayama S.; Dupuy B.; Daube G.; China B. and Cole S.T. (1996) :**
 Genome mapping of *C.perfringens* strains with 1-Ceu I shows many virulence genes to be plasmid-borne.
 Mol. Gen. Genet.; 251: 720-726.
- Kathleen T. and Arther T. (1993) :**
 An introduction to the viruses.
 In : Foundation in Microbiology. W.M.C. Brown Communications, Inc.; 131-155.
- Kato H.; Kato N; Watanabe K.; Iwai N.; Nakamura H.; Yamamoto T.; Suzuki K.; Kim S.M.; Chong Y. and Wasito E.B. (1998) :**
 Identification of toxin A-negative, toxin B-positive *Clostridium difficile* by PCR.
 Journal of Clinical Microbiology.P : 2178-2182.
- Kelly C.P.; Pothoulakis C. and LaMont J.T. (1994) :**
Clostridium difficile colitis.
 N. Eng. J. Med.; 330 (4) : 257-62.
- King J.W.; White M.C.; Todd J.R. and Conard S.A. (1992) :**
 Alterations in the microbial flora and in the incidence of bacteremia at a university hospital after adoption of amikacin as the sole formulary aminoglycoside.
 Clin. Infect. Dis.; 14 : 908-15.
- Kushnaryov V.M.; Redlich P.N.; Sedmak J.J.; Lyerly O.M.; Wilkins T.D. and Grossberg S.E. (1992) :**
 Cytotoxicity of *Clostridium difficile* toxin A for human colonic and pancreatic carcinoma cell lines.
 Cancer Res.; 15; 52 (18) : 5096-9.
- Lai. K.; Melvin Z.S.; Menard M.J.; Kotilainen H.R. and Baker S. (1997) :**
 Epidemiology, risk factors and infection control.
 Infect. Hosp. Epidemiol; 18 (9) : 628-32.

- Larson H.E. and Parry J.V. (1977) :**
Undescribed toxin in pseudomembranous colitis.
Br. Med.; 1 : 1246-8.
- Larson H.E.; Price A.B. and Borriello J.P. (1980):**
Epidemiology of experimental enterocolitis due to *Clostridium difficile*.
Journal of Infectious Diseases. 142 : 408-413.
- Lennette E.H. (1979) :**
General principles underlying laboratory diagnosis of viral and reckettesial infection. PP 1 – 177. In E.H. Lennette and Schmidt (Eds): diagnostic procedures for viral and rickeettesial infections.
American Public Health Association. New York.
- Leslie C. and John O. (1993) :**
Propagation of viruses in the laboratory. In : Human virology (A text for students of medicine dentistry and microbiology).
Oxford University Press, 30-37.
- Lyerly D.M.; Barroso L.A.; Wilkins T.D.; Depitre C. and Corthier G. (1992) :**
Characterization of a toxin A-negative, toxin B- positive strain of *Clostridium difficile*.
Infect. Immun. 60 : 4633-4639.
- Lyerly D.M.; Howard C.; Kerivan H.C. and Wilkins T.D. (1988) :**
Clostridium difficile : its disease and toxins.
Clin. Microbiol. Review; 1 (1) : 1-18.
- Lyerly D.M.; Neville L.M.; Evans D.T.; Fill J.; Allen S.; Greene W.; Sauther R.; Hnatuck P.; Torpey D.J. and Schwalbe R. (1998) :**
Multicenter evaluation of the *Clostridium difficile* tox A/B test.
Journal of Clinical Microbiology. P. 184-190.
- Lyerly D.M.; Saum K.E.; MacDonald D.K. and Wilkins T.D. (1985) :**
Effects of *Clostridium difficile* toxins given intragastrically to animals.
Infect. Immun.; 47 : 349-52.
- Lyerly D.M. and Wilkins T.D. (1986) :**
Commercial latex test for detection of *Clostridium difficile* toxin A does not detect toxin A.
J. Clin. Microbiol.; 23 : 622-623.

- Macgowan A.P.; Brown J. and Feeney R. (1995) :**
Clostridium difficile associated diarrhea and length of hospital stay.
Journal of Hospital Infection. 31 : 241-244.
- Mahida Y.R.; Makh S.; Hyde S.; Gray T. and Borriello S.P. (1996) :**
Effect of *clostridium difficile* toxin A on human intestinal epithelial cells :induction of interleukin 8 production and apoptosis after cell detachment.
Gut. 38 : 337-347.
- McBee R.H. (1960) :** Intestinal flora of some Antarctic birds and mammals.
J. Bactriol; 79 : 311-12.
- McFarland L.V. (1998) :**
Epidemiology, risk factors and treatment of "*Clostridium difficile* diseases.
Dig. Dis.; 16 (5) : 292-307.
- McFarland L.V.; Mulligan M.E.; Kork R.Y.Y. and Stamm W.E. (1989):**
Nosocomial aquisition of *Clostridium difficile* infection.
N.Engl. J. Med.; 320 :204-10.
- McFarland L.V.; Surawicz C.M. and Stamm W.E. (1990) :**
Risk factors for *Clostridium difficile* carriage and *Clostridium difficile* – associated diarrhea in a cohort of hospitalized patients.
J. Infect. Dis.; 162 : 678-684.
- McKay K.; Coia J.E. and Poxton I.R. (1989) :**
Typing of *Clostridium difficile* causing diarrhea in an orthopedic ward.
Journal of Clinical Pathology. 42 : 511-515.
- Miller J.M.; Walton J.C. and Tordecilla I.L. (1998) :**
Recognizing and managing *Clostridium difficile* associated diarrhea.
Medsurg. Nurs.; 7 (6): 348-9, 352-6.
- Moffat M.A.J. (1973) :**
Some cell culture procedures in diagnostic medical virology.
In : Kruse P.F.; Paterson M.K. (eds) tissue culture methods and applications. Academic Press, New York, pp.: 611-617.

- Mullany P.; Wilks L.; Puckey M. and Tabaqchali S. (1994) :**
Gene cloning in *C.difficile* using Tn 916 as a shuttle conjugative transposon.
Plasmid 31 : 320-323.
- Muto Y.; Takahashi Y. and Kawamura H. (1976) :**
Effect of short chain fatty acids on the electrical activity of neoplaeo-and archicortical system.
Brain Nerve, 16 : 601-608.
- Mylonakis E.; Ryan E.T. and Calderwood J.B. (2001) :**
C.difficile associated diarrhea.
A review. Arch. Intern. Med.; 161 (4) : 525-33.
- Norwood D.A. and Sands J.A. (1997) :**
Physical map of the *C.difficile* chromosome.
Gene 201 : 159-168.
- Nusrat A.; Streiber C.; Turner J.R.; Verkade P.; Madara J.L. and Parkos C.A. (2001) :**
Clostridium difficile toxins disrupt epithelial barrier function by altering membrane microdomain localisation of tight junction proteins.
Infect. Immun.; 69 (3) : 1329-36.
- O'Neill G.; Adams J.E.; Bowman R.A. and Riely T.V. (1993) :**
Molecular characterization of *Clostridium difficile* isolates from humans, animals and their environments.
Epidemiology and Infection. 111 : 257-264.
- Ottinger M.E. and Lin S. (1988) :**
Clostridium difficile Toxin B induces recognition of actin, vinculin, and talin in cultured cells.
Exp. Cell. Res; 179 : 215-29.
- Paker M.T. (1984) :**
Hospital acquired infection.
In : Topley and Wilson's principles of bacteriology, virology and immunity. 7th ed, Vol. (3), Chap. (58), pp. : 192-225, Wilson G.S., Miles A.A. and Paker M.T. (eds).
- Paul J. (1970) :**
Cell and Tissue Culture.
4th edn. Living stone, Edinburgh.

- Pear S.M.; Williams T.H.; Bettin K.M.; Gerding D.N. and Golgiani J.N. (1994) :**
Decrease in nosocomial *Clostridium difficile*-associated diarrhea by restricting clindamycin use.
Ann. Intern. Med.; 120 : 272-7.
- Pochapin M. (2000):**
The effect of probiotics on *Clostridium difficile* diarrhea.
Am. J.gastroenterol.; 95 (1 suppl) : 511-3. (abst.).
- Poxton I.R. (1982) :**
Detection and isolation of *Clostridium difficile*.
European Journal of Chemotherapy and Antibiotics. 2 : 123-128.
- Poxton I.R.; Brown R.; Fraser A.G. and Collee J.G. (1996) :**
Enteropathogenic clostridia and clostridium botulinum.
In : Mackie & McCartney Practical Medical Microbiology 4th edition, chap. 32, pp. 537-549. Ed. :Collee J.g.; Fraser A.G.; Morrison B.P. and Simmons A. Pub. Churchill Livingstone.
- Prepens U.; Just I.; Von Eichel-Streiber C. and Aletories K. (1996) :**
Inhibition of Fc ϵ RI-mediated activation of rat basophilic leukemia cells by *Clostridium difficile* toxin B (monoglucosyl transferase).
J. Biol. Chem.; 271: 7324-7329.
- Reinke C.M. and Messick C.R. (1994) :**
Update on *Clostridium difficile* induced colitis.
Am. J.Hosp. Pharm.; 51 : 1892-1901.
- Riley T.V.; Cooper M.; Bell B. and Golledge C.L. (1995) :**
Community acquired *C.difficile* associated diarrhea.
CID; 20 : 5263-5.
- Rolfe R.D. and Song W. (1995) :**
Immunoglobulin and non-immunoglobulin components of human milk inhibit *C.difficile* toxin A receptor binding.
J. Med. Microbiol.; 42 (1) : 10-19.

Rood J.I. (1998) :

Virulence genes of *Clostridium perfringens*.
Annu. Rev. Microbiol.; 52 : 333-360.

Savola K.L.; Baron E.J.; Tompkins L.S. and Passaro D.J. (2001) :

Fecal leukocyte stain has diagnostic value for outpatients but not inpatients.
J. Clin. Microbiol.; 39 (1) : 266-9.

Schue V.; Grean G.A. and Mantiel H. (1994) :

Comparison of toxin A test with cytotoxicity assay for detection of *C. difficile* associated diarrheal disease.
J. Med. Microbiol; 41 : 316-318.

Settle C.D.; Wilcox M.H.; Fawley W.N.; Corrado O.J. and Hawkey P.M. (1998) :

Prospective study of the risk of *Clostridium difficile*-associated diarrhea in elderly patients following treatment with cefotaxime or penicillin- tazobactam.
Eur. J. Gastroenterol. Hepatol.; 8(11) : 1035-40.

Smith L.D. and Hobbs G. (1984) :

Genus *Clostridium*.
In : Brgery's Manual of determinative bacteriology. 2nd edition. Chap. 22, pp. 551-72. Ed. : Buchnan R.E. and Gibbons N.E. Pub. Wiliams and Wilkins Co. Balitimore.

Smith L.D. and King E.O. (1962) :

Occurance of *Clostridium difficile* in infections of man.
J.Bacteriol.; 84 : 65-67.

Snyder M.L. (1937) :

Further studies of *Bacillus difficilis*.
Infect. Dis.; 60 : 223-25.

Sriuranpong V. and Voravud N. (1995) :

Antineoplastic associated colitis in Chulalongkorn University Hospital.
J. Med. Assoc. Thai.; 78 (8) : 424-30.

- Stackebrandt T.E. and Rainey F.A. (1997) :**
Phylogenetic relationships. The clostridia.
In : Molecular biology and pathogenesis. pp : 3-19. Ed. :
Rood J.I.; McClane B.A.; Songer J.G. and Titball R.W. Pub.
: Academic Press, Inc. London, U.K.
- Stephen J.; Redmond S.C.; Mitchell T.J.; Ketley J.; Candy D.C.;
Burdaon D.W. and Daniel R. (1984) :**
Clostridium difficile enterotoxin (toxin A) new results.
Biochemical Society Transaction; 12 : 194-5.
- Streiber E.; Boquet C.P.; Sauerhorn M. and Theles Tam M. (1996) :**
Large clostridial cytotoxins- a family of glycosyltransferases
modifying small GTP- binding proteins.
Trends Microbiol. 4 : 375-382.
- Strik P.R. and Griffiths P.D. (1987) :**
Journal of medical virology, 21 : 329.
- Sultana Q.; Chaudhry N.A.; Munir M.; Anwar M.S. and Tayyab M.
(2000) :**
Diagnosis of *Clostridium difficile* antibiotic associated
diarrhea. Culture versus toxin assay.
J. Pak. Med. Assoc.; 50 (8) : 246-9. (abst.).
- Surawicz C.M. and McFarland L.V. (1999) :**
Pseudo-membraneous colitis : causes and cures.
Digestion. 60 (2) : 91-100.
- Tabaqchali S.; O'Farrell S.; Holland D. and Silman R. (1986) :**
Methods for typing of *Clostridium difficile* based on
polyacrylamid gel electrophoresis of [³⁵S] methionine.
labelled proteins.
Journal of Clinical Microbiology. 23 : 197-198.
- Tedesco F.J.; Barton R.W. and Alpers H.D. (1974):**
Clindamycin- associated colitis.
Ann. Intern. Med.; 81 : 429.
- Tedesco F.J.; Markham R. and Gurwith M. (1978) :**
Oral vancomycin or antibiotic- associated pseudo-
membraneous colitis.
Lancet. 2 : 226-8.

- Thurn J.; Crossle K.; Gerdt A.; Maki M. and Johnson J. (1990):**
 Enteral hyperalimentation as a source of nosocomial infection.
 J. Hosp. Infect.; 15 :203-17.
- Titov I.; Lebedkova N.; Tang Y.J.; Cohen S.H. and Silva J. (2001) :**
 Isolation and molecular characterization of *C.difficile* strains from patients and the hospital environment.
 J. clin. Microbiol.; 38 (3) : 1200-2.
- Toothaker R.D. and Elmer G.W. (1984) :**
 Prevention of clindamycin induced mortality in hamsters by *Saccharomyces boulardii*.
 Antimicrob. Agents Chemother.; 26 : 552.
- Tucker K.D.; Carriq P.E. and Wilkins T.D. (1990) :**
 Toxin A of *Clostridium difficile* is a potent cytotoxin.
 J. Clin. Microbiol.; 28 (5) : 869-71.
- Viscidi R.; Willey S. and Bartlett J.G. (1981) :**
 Isolation rates and toxigenic potential of *Clostridium difficile* isolates from various patient populations.
 Gastroenterology. 81 : 5-9.
- Vogel L.C. (1995) :**
 Antibiotic – induced diarrhea.
 Orthop. Nurs.; 14 (2) : 38-41.
- Voller A.; Bidwell D.E. and Bartlett A. (1982) :**
 In Howard CR (ed) New developments in practical virology.
 Alan R. Liss, New York, pp. 59.
- W.H.O. (1993) :**
 The management and prevention of diarrhea.
 Practical guidelines, 3rd edition. WHO. Geneva : 1-50.
- Walker B.A.; Robert R.; Stafford R. and Seneviratne E. (1993) :**
 Relapse of antibiotic associated colitis : endogenous persistence of *C.difficile* during vancomycin therapy.
 Gut. 24 : 206-12.

Warny M.; Keates A.C.; Keates S.; Castagliuolo I.; Zacks J.K.; Aboudola S.; Qamar A.; pothoulakis C.; LaMont J.T. and Kelly C.P. (2000) :

P38 MAP kinase activation by *Clostridium difficile* toxin A mediates monocyte necrosis, IL-8 production, and enteritis. The Journal of Clinical Investigation. 8 (105) : 1147-1156.

Wenisch C.; Parshalk B.; Hasenhundlm; Hirscl A.M. and Graningar W. (1996) :

Comparison of vancomycin, teicoplanin, metronidazole and fusidic acid for the treatment of *Clostridium difficile* associated diarrhea.

Clin. Infet. Dis.; 22 : 813-8.

Wilcox M. (1998) :

Treatment of *Clostridium difficile* infection.

J. Antimicrob. Chemother.; 41 (Suppl C) : 41-6.

Wilks M. and Tabagchali S. (1994) :

Use of PCR with an arbitrary primer in typing isolates of *Clostridium difficile*.

Journal of Medical Microbiology. 40 (Suppl,1) : abs 291.

Williams T.H.; Pear S.M. and Dale N. (1994) :

An outbreak of clindamycin associated *Clostridium difficile* associated diarrhea.

J. Med. Microbiol.; 41 : 313-17.

Xia Y.; Hu H.Z.; Liu S.; Pothoulakis C. and Wood J.D. (2000) :

Clostridium difficile toxin A excites enteric neurones and suppresses sympathetic neurotransmission in the guinea pig.

Gut; 46 (4) : 481-6.

Yamada T.; Alpers D.H.; Owyang C.; Powell D.W. and Silverstein F.E. (eds) (1991) :

Bacterial infections of the colon.

In :Text Book of Gastroenterology. Vol 2, Ch 83, p : 1756-1767. Pub. : J.B.Lippincott Co., Philadelphia.

Yukari C.M.; Vinetz J.M.; Richard D.M.; Cindy M.; Charache P. and Bartlett J.G. (1995) :

Clostridium difficile colitis : an efficient clinical approach to diagnosis.

Ann. Int. Med.; 123 (11) : 835-40.

Zimmaro D.M.; Rolandelli R.H.; Koruda M.J.; Settle R.G.; Stein T.P. and Rom Beau J.L. (1989):

Isotonic tube feeding formula induces liquid stool in normal subjects reversal by pectin.

Parenter. Entrol. Nutr.; 13 : 117-23.

Zimmerman R.K. (1991) :

Risk factors for *Clostridium difficile* cytotoxin positive diarrhea after control of horizontal transmission.

Infect. Control Hosp. Epidemiol.; 12 : 96-100.