

These organisms have been found in a wide variety of animals, including cattle, sheep, gulls, monkeys, pigs and domestic pets such as cats and dogs. Campylobacteriosis may be acquired by contact with animals or by ingestion of contaminated water or foods, in particular poultry, unpasteurised milk and red meat.

Our study included 148 patients attending Benha University Hospital during the period from the first of May to the end of September 1987 complaining of diarrhoea. Their age ranged from below one year to 61 years with a mean of 7.636 years. The sample included 89 males and 59 females with a ratio of 1.5/1.

Most cases 94 (63.513 %) had the diarrhoeal episode for 1-5 days but, the mean duration of illness before seeking medical advice was 5.459 days. 58 (39.189 %) of cases had 6 - 10 motions during the previous 24 h and the mean number of motions was 9.952. 89 (60.135 %) of patients suffered from vomiting. 123 (83.108 %) complained

of abdominal pain. 98 (66.216 %) had a rise of temperature. 51 (34.459 %) received treatment before we obtain their specimens.

A microscopic examination of stools for blood, leucocytes and parasites was done. Blood was seen in 47 (31.756 %) samples. Leucocytes were detected in 112 (75.675 %) samples. The following parasites were detected: *Entamoeba histolytica* 15 (10.135 %) cases, *Gardia lamblia* 6 (4.054 %) cases, *Ascaris* ova 20 (13.513 %) cases, *Bilharzia Mansoni* ova two (1.351 %), *Trichuris trichura* 7 (4.729 %) cases, *Strongyloids stercoralis* one (0.675 %) cases and *Hymenolepis Nana* ova one (0.675 %) of cases.

Then, the stools were immediately directly plated on *Campylobacter jejuni* selective medium, Preston medium. The medium is composed of *Campylobacter* Agar Base, 5 % lysed horse R.B.C's. and Preston *Campylobacter* Selective Supplement. This supplement is formulated as : Polymyxin -B 2500 I.U., Rifampicin 5 mg, Trimethoprim lactate

5 mg and actidione 5 mg. This formula is sufficient for 500 ml Campylobacter agar.

Cultures were incubated in a Gas-Pak system without catalyst at 43°C for 48 h. Under these conditions Preston medium had yielded: 5 isolates of *C. jejuni*, one strain *Salmonella* (para B) , 6 yeast like fungi, one strain coagulase negative staphylococci and 87 strains of *E.Coli*. 48 samples showed no growth.

The rate of isolation of *C. jejuni*, in this study, reached 3.38 % (5 cases). This rate may be understood within an ecosystem for our locality in order to know the prevalence of intestinal pathogens, to follow the dynamics of intestinal infection and the pathogenesis of diarrhoea. We can conclude the importance of isolating *C. jejuni* from fecal specimens in order not to miss an important pathogen in case of diarrhea.

Fecal cultures had the highest yields of

C. jejuni when obtained from patients within 7 days of illness. Isolation rates were highest for those specimens that were watery, had gross or occult blood or contained leucocytes. No relationship of *Campylobacter* infection to occupation per se has been shown.

The majority of strains were found to be highly sensitive to nitrofurantoin, doxycycline, gentamycin and nalidixic acid. They showed intermediate sensitivity to neomycin and were resistant to : colistin, cefoxitin, cefaloridine and rifampicin. Antibiotic treatment is recommended to reduce the chance of cross infection and to diminish the symptoms and shorten the period of diarrhoea.

Our study shows that *Campylobacter* is an important pathogen specially in cases of infantile diarrhoea which may be misdiagnosed due to unawareness of clinicians and microbiological laboratories of the importance and methods of isolation of this organism.

REFERENCES

- Agulla, A.; Merino, F.J.; Villasante, P.A.; Saz, J.V.; Diaz, A. Velasco, A.C..(1987):
Evaluation of four enrichment media for isolation of *C. jejuni*.
J. Clin. Microbiol. 25 (1) : 174 - 179.
- Alabi, S.A.; Coker, A.O., Dosunmu-Ogunbi, O. ; Odugbemi, T. (1986) :
Biotype and serogroup distribution of *Campylobacter* isolates from children in Nigeria.
J. Clin. Microbiol. 24 (5) : 856 - 864.
- Barry, A.L. and Hoeprich, P.D. (1983) :
Infectious Diseases.
Third edition.
Page : 147 - 153.
Harper & Row, Publishers (Philadelphia).
- Blaser, M.J.; Wells, J.G., Feldman, R.A.; Pollard, R.A.; Allen, J.R. and The Collaborative Diarrhoeal Disease Study Group. Atlanta, Georgia. (1983) :
Campylobacter Enteritis in the United States.
A Multicenter Study.
Clinical Review.
Annals of Internal Medicine 98 : 360 - 365.

Blaser, M.J. (1984):

**Campylobacter infections. Bacterial
Infections of Humans. Epidem. and Control.
Edited by : A.S. Evans; H.A. Feldman. 2nd
printing. Plenum medical book Company.**

Bolton, F.J.; Coates, D.; Hutchinson, D.N. (1984):

**The ability of Campylobacter media supplements
to neutralize photochemically induced toxicity
and hydrogen peroxide.
Journal of Applied Bacteriology. 56 (1) 151-157.**

Collins, C.H. and Lyne, P.M. (1984):

**Microbiological Methods.
Fifth edition.
Page : 317 - 319.
Butterworths London Durban Singapore Sydney
Toronto Wellington.**

Cruickshank, J.G. (1986):

**Abstracts on Hygiene and communicable Diseases.
Bacteriology and Bacterial Diseases.
Vol. 61 No. 3
Abstract No. 924.**

**Fauchere, J.L.; Veron, M., Lellouch-Tubiana, A and
Peister, A. (1985):**

Experimental infection of Gnotobiotic
Mice with *C. jejuni* :
Colonization of intestine and spread to
lymphoid and reticulo-endothelial organs.
J.Med. Microbiol. Vol. 20. 215 - 224.
The Pathological Society of Great Britain
and Ireland.

Finch, M.J.; Riley, L.W. (1984):

Campylobacter Infections in the United
States.
Results of an 11. State Surveillance.
Arch. Intern Med.; Vol 144 : 1610-1612.

Flores, B.M.; Fennell, C.L.; Holmes, K.K.; Stamm, W.E. (1985):

In vitro susceptibilities of *Campylobacter*-
like organisms to twenty antimicrobial agents.
Antimicrob. Agents Chemother; 28(2): 188-279.

Francioli, P.; Herzstein, J.; Grob, J.P.; Vallotton, J.J.;

Mombelli, G. and Clauser, M.P. (1985):

Campylobacter fetus subspecies *fetus*
Bacteraemia.
Arch Intern Med. Vol. 145 : 289 - 292.

George, N., Haroun, A. and Maged, Z. (1982):

Campylobacter enteritis.

J. Egypt. Pub. Hlth. Ass.

L VII (1 & 2): 144 - 155.

Goodwin, C.S., Mc Culloch, R.K; Armstrong, J.A and Wee, S.H. (1985):

Unusual Cellular fatty acids and Distinctive Ultrastructure in a new spiral bacterium (Campylobacter Pyloridis) from the human gastric mucosa.

J. Med. Microbiol. - Vol. 19 : 257 - 267.

Guandalini, S.; Cucchiara, S.; Capano, G.; Falbe, V., Girdi, V. and Rubino, A. (1983):

Campylobacter Colitis in Infants.

J. Pediatr., 102 (I) : 72 - 74.

Harris, L.F.; Stalons, D.R. (1985):

The impact of routine isolation techniques for Campylobacter jejuni in stool cultures.

South. Med. J. 78 (11) : 1317-1325.

Herbert, G.A.; Hollis, D.G.; Weaver, R.E.; Lambert, M.A. and Moss, W. (1982):

30 years of Campylobacters: Biochemical Characters and Biotyping Proposal for Campylobacter jejuni.

J. Clin. Microbiol., 15 (6): 1065 - 1073.

- Hornick, R.B. and Hoeprich, P.D. (1983):
Infectious Diseases.
3rd edition.
Page : 639 - 640.
Harper & Row, Publishers (Philadelphia).
- Jawitz, E.; Melnick, J.L. and Adelberg, E.A. (1984):
The Campylobacters.
review of Medical Microbiology.
16th edition. Page : 250.
Lange, Librairie DU Liban 1984.
- Joklik, W.K.; Wilett, H.P., Atmos, D.B. (1984):
Zinsser Microbiology.
18 th edition.
Page : 742 - 744.
Century-Crofts/Norwalk, Connecticut.
- Kaplan, R.L. and Barrett, J. (1981):
Campylobacter.
C.D.C. Monograph Series. Atlanta. Georgia.
- Klipstein, F.A.; Engert, R.F.; Short, H .B. (1986):
Enzyme-linked immunosorbent assays for
virulence properties of Campylobacter
jejuni clinical isolates.
J. Clin. Microbiol. 23 (6) : 1039 - 1082.

Laflong, A.C.; Bamford, K.B. (1986):

Low incidence of *Campylobacter* enteritis in
Northern Ireland.

J. Hyg. (Lond); 97 (3): 479-561.

Lariviere, L.A.; Guadreau, C.L.; Turgeon, F.F. (1986):

Susceptibility of Clinical isolates of
Campylobacter jejuni to twenty-five
antimicrobial agents.

J. Antimicrob. Chemother.

18 (6) 681 - 686.

Lastovica, A.J.; Le Roux, E.; Congi, R.V. and Penner,

J.L. (1986):

Distribution of serotypes of *Campylobacter*
jejuni and *C. coli* isolated from paediatric
patients.

J. Med. Microbiol. 21, 1 - 5.

Mahfouz, A.A. (1983):

Campylobacter in childhood Diarrhoea at
Mansoura.

Thesis submitt. in partial fulfillment of the
Req. of M.D. of Microbiol.

Faculty of Medicine El Mansoura University.

Mathan, V.I. and Ragan, D.P. (1986):

The prevalence of bacterial intestinal pathogens in a healthy rural population in southern India.

J. Med. Microbiol., 22 (2): 93 - 99.

Mehlam, I.J. and Romero, A.R. (1982):

Improved Growth Medium for Campylobacter Species.

App. Environm. Microbiol. 43 (3): 615 - 618.

Merino, F.J.; Agulla, A.; Villasante, P.A.; Dizaz, A.; Saz, J.V. Velasco, A.C. (1986):

Comparative efficacy of seven selective media for isolating Campylobacter jejuni.

J. Clin. Microbiol. 24 (3): 451 - 453.

NG. LK.; Sherburne, R.; Taylor, D.E.; Stiles, M.E. (1985):

Morphological forms and viability of Campylobacter species studied by electron microscopy.

J. Bacteriol; 164 (1) : 338 - 43.

Pai, C.H.; Gillis, F.; Foumanen, E.; Marks, M.J. (1984):

Abstracts on Hygiene and Communicable Diseases: Bacteriology and Bacterial Diseases.

Vol. 59 No. 11 abstract No. 4445.