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Isolation of *Campylobacter jejuni* from the Bile of a Cholecystic Patient

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Described is the isolation of *Campylobacter jejuni* from the bile of a cholecystic patient admitted for abdominal pain to an intensive care unit. A cholecystectomy was performed, and the patient responded to erythromycin therapy. Details of this uncommon isolation are given.

Campylobacter jejuni is a small, slender, gram-negative, curved rod which causes acute gastroenteritis and extraintestinal infections in humans (4). The characteristics of *Campylobacter* enteritis are fever, bloody diarrhea, and abdominal pain (6).

There is a report of patients who have been admitted to surgical wards because of suspected appendicitis (8), as well as a description of the isolation of *C. jejuni* from an infected appendix (5). In Belgium, 99% of *C. jejuni* were isolated from feces of patients with diarrheal illness in 1986 (n = 2,354), 49% from children <5 years old (IHE Statistiques, Brussels, Belgium), as described elsewhere (2, 3). Isolation rates for this organism have approached those of *Salmonella* spp.

Isolation can be achieved by (i) using selective plating media, (ii) incubation in a microaerophilic atmosphere, and (iii) using an incubation temperature of 42°C. We describe a case of acute cholecystitis without lithiasis and the isolation of *C. jejuni* from the bile.

A 62-year-old man was admitted to our hospital with a history of acute abdominal pain, including significant nausea without vomiting and fever. There was no history of diarrhea. His past medical history was remarkable for cardiovascular diseases, including hypertension treated with propanolol and furosemide since 1980 and myocardial infarction treated with amiodarone in 1984 because of ventricular arrythmia. One week before his admission to the hospital, he was in a serious car accident.

A physical examination of the patient at the time of admission revealed a blood pressure of 150/80 mm Hg and a pulse rate of 65 beats per min. He had tenderness on palpation of the epigastrum and the right hypochondriac. The electrocardiogram was normal. The complete blood cell count and the myocardial and hepatic enzymes were within the normal ranges.

Emergency echotomography of the upper abdominal section revealed a thick coated gallbladder without lithiasis or any dilatation of the bile ducts. Liver, pancreas, and kidneys appeared normal.

A cholecystectomy was performed. Preoperative bile cultures showed a heavy growth of *C. jejuni*. Erythromycin therapy was instituted with success.

Two blood culture system bottles were filled with approximately 5 ml of bile during the operation. One bottle contained Columbia broth and was used for the isolation of aerobic bacteria. A second contained Schaedler broth for isolation of anaerobic pathogens (Combi set COL/SCH; Roche Diagnostica). The Schaedler broth and the Columbia broth were incubated for 24 h at 37°C. Subculture media included MacConkey agar, Columbia agar with 5% sheep blood, and chocolate agar with polyvitex mixture. MacConkey agar was prepared from commercial powder according to the instructions of the manufacturer (Oxoid product CM 109). Columbia and chocolate agars were ready-to-use plates (BioMerieux BENELUX).

Samples of Columbia broth were subcultured onto MacConkey and Columbia agars and incubated aerobically at 37°C for 24 and 48 h. Samples of Schaedler broth were aspirated with a sterile syringe and streaked onto Columbia and chocolate agars. The Columbia agar was incubated in an anaerobic atmosphere for at least 48 h (GasPak system; BBL Microbiology Systems, Cockeysville, Md.). The chocolate agar was incubated for 24 and 48 h at 37°C in a candle jar.

All plates incubated aerobically were sterile after 24 and 48 h. Colonies appeared on the plates incubated in CO_2 and anaerobically which were identified as *C. jejuni* and subsequently confirmed by J.-P. Butzler, St. Pieters Hospital, Brussels, Belgium.

The antimicrobial susceptibility pattern of the organism was determined by using a modification of the standard disk diffusion technique (1). Incubation was for 24 h at 42°C under a microaerophilic atmosphere provided by the Anaerocult C envelope (no. 16275; E. Merck AG, Darmstadt, Federal Republic of Germany) and jar system (BBL). The organism was uniformly susceptible to piperacillin, tobramycin, and erythromycin, but was resistant to amoxicillin, all cephalosporins including cefaclor, cefuroxime, ceftazidime, and cefotetan, and a cephamycin newly introduced in Belgium. These results correlate well with susceptibilities previously described (7).

The isolation of *C. jejuni* utilizing capnophilic and strict anaerobic atmospheres at 37°C for a 48-h incubation is uncommon. These isolation conditions differ from those usually used for the culturing of stool (4, 7). All cultural characteristics were compatible with those described for *C. jejuni*. Blood and stool samples were not sent for culture during the hospitalization time. Two weeks after the hospitalization, stool culture yielded no *C. jejuni* or any other potential enteric pathogen; *C. jejuni* would have been missed if bile had not been cultured.

A serum sample taken 5 months later showed an antibody titer of 1:80, providing clinical evidence of the pathogenicity of the isolate (normal values are <1:20).

This report indicates that *C. jejuni* can be a cause of

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alithiasic cholecystitis, as demonstrated by isolation of the organism from the bile and by a residual high serum antibody titer determined 5 months after the onset. This case suggests that preoperative bile cultures are important in all cases of acute cholecystitis to aid in the diagnosis and in early administration of appropriate antibiotic therapy.

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