

# Letter to the Editor

## Isolation of *Campylobacter upsaliensis* from Stool Specimens

Walmsley and Karmali (6) reported on the isolation from the stools of six children of *Campylobacter* strains corresponding phenotypically to *Campylobacter upsaliensis*. This is an important observation, adding evidence to the possible enteropathogenic role of these organisms. However, we disagree with the recommendations of the authors regarding the isolation procedure for *C. upsaliensis* from stools. Indeed, the authors suggest that their previously described CSM medium (4), consisting of Columbia agar base, activated charcoal, cefoperazone (32 µg/ml), vancomycin (20 µg/ml), and cycloheximide (100 µg/ml), is a suitable medium for the isolation of *C. upsaliensis* from stool specimens.

We introduced an antibiotic-free filtration method (5) on 1 July 1986 and have compared it, for the isolation of campylobacters from 12,799 stool specimens, with our previously described solid (2) and semisolid (3) selective media, as well as with the blood-free charcoal medium (1) supplemented with cefoperazone (SR 125; Oxoid). A total of 93 catalase-negative or weakly reacting (CNW) strains were isolated; these were subsequently found to belong to the *C. upsaliensis* group, as described by K. Sandstedt and J. Ursing (Abstr. 14th Int. Congr. Microbiol. 1986, PB 8-17).

Eighty-nine strains were isolated with the filtration method only. The susceptibilities of 52 of 93 CNW strains to drugs present in selective isolation media are shown in Table 1.

Clearly, a wide range of susceptibilities can be observed for these organisms, and it is obvious from Table 1 that none of the existing selective isolation media are suitable for the isolation of CNW campylobacters from stool specimens.

There may be several reasons why these six *C. upsaliensis* strains were isolated on CSM medium in Walmsley and Karmali's paper (6). Looking at Fig. 1 in their paper, it would appear that they have been dealing with an outbreak of CNW strains. These strains may have been resistant to cefoperazone, vancomycin, and cycloheximide; however, only 19.2% of our strains were resistant to cefoperazone.

In conclusion, we would suggest that microbiologists interested in the isolation of these CNW campylobacters include the filtration method (5). Indeed, none of the presently available selective isolation media are satisfactory for the isolation of these strains. The results of our study have been presented at the 4th and 5th International Workshops on *Campylobacter* Infections in Göteborg, Sweden (16 to 18 June 1987), and Puerto Vallarta, Mexico (25 February to 1 March 1989). A manuscript is in preparation.

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H. Goossens  
J.-P. Butzler  
WHO Collaborating Center for Enteric *Campylobacter*  
St. Pieters University Hospital  
322 Hoogstraat  
B-1000 Brussels, Belgium

### Author's Reply

Goossens and Butzler provide new information on the isolation of *Campylobacter upsaliensis* from stools based on their studies comparing direct fecal culture on antibiotic-containing selective media and an antibiotic-free filtration method. Of 93 strains, 89 were isolated only by the filtration method. Susceptibilities of 52 of these isolates to various antibiotics used in *Campylobacter* selective media revealed a wide range of susceptibilities, leading Goossens and Butzler to conclude that none of the existing antibiotic selective methods are suitable for the isolation of *C. upsaliensis* from stool specimens. They suggest that the isolations of this organism reported by us (1) probably represent only a minority of strains that are resistant to one or more antibiotics present in our selective medium. In light of the new information they provide on the range of antimicrobial

TABLE 1. MBCs of drugs present in selective isolation media for 52 CNW campylobacters

Drug	No. of strains with the following MBC (µg/ml):											
	≤0.097	0.195	0.39	0.78	1.56	3.12	6.25	12.5	25	50	100	>100
Cefoperazone	5	3	4	4		4	12	10	7	3		
Colistin	35	2	1	3		3	1	5		1		1
Rifampin	6		1		2	4	10	24	3	1	1	
Vancomycin	2	3	2	3	1			2	6	14	15	4
Amphotericin B	1		1	1	1	4	2	6	6	16	5	9
Trimethoprim	2			1	2	3		3		5	5	31

susceptibilities of their isolates, their conclusions are perfectly reasonable.

The selection of only resistant isolates is a potential problem with any antibiotic-containing selective medium. The use of the antibiotic-free filtration method by Goossens and Butzler has clearly been of help in further defining the problems associated with the isolation of the newly recognized species *C. upsaliensis* from feces on antibiotic-containing selective media.

#### LITERATURE CITED

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**S. Walmsley**  
**M. A. Karmali**  
*Department of Microbiology*  
*Hospital for Sick Children*  
*Toronto, Ontario M5G 1X8*  
*Canada*