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Campylobacter In Virginia 1980-1982

A marked increase has occurred in the number of campylobacter infections reported to the Division of Epidemiology over the last three years. Only 46 cases were reported in 1980, whereas 226 and 440 cases were reported in 1981 and 1982, respectively. This represents almost a 10-fold increase. For 1982, the 440 cases compares with 1,468 and 159 reported cases of salmonellosis and shigellosis, respectively. No deaths due to campylobacter were reported.

The source of isolation was reported for 505 of the 712 cases reported between 1980 and 1982. The vast majority (98%) of isolates were from stool. In 9 cases (1.8%) the organism was isolated from blood. Other sites were the sources in three cases: Bartholin's duct (1), pilonidal cyst (1), and joint (1).

Campylobacter jejuni was the most frequently isolated species, accounting for 98.5%. *C. fetus* subsp. *fetus* (formerly referred to as *C. fetus* subsp. *intestinalis*) was only isolated from six cases, and *C. sputorum* once. Seven cases apparently had dual infections; in addition to campylobacter, stool specimens were also found to contain salmonella in five cases, shigella in one case, and *E. histolytica* in one case.

When plotted by month of disease onset, it can be seen (see Figure 1) that the majority of cases occurred during the summer and fall.

There was considerable geographic variation in both the numbers of cases reported and in city- and county-specific disease incidence. The greatest numbers of cases were reported from relatively urbanized areas: Charlottesville 65 cases (9%), Henrico County 65 cases (9%), Fairfax County 62 cases (8.7%), and Richmond City 62 cases (8.7%). Incidence

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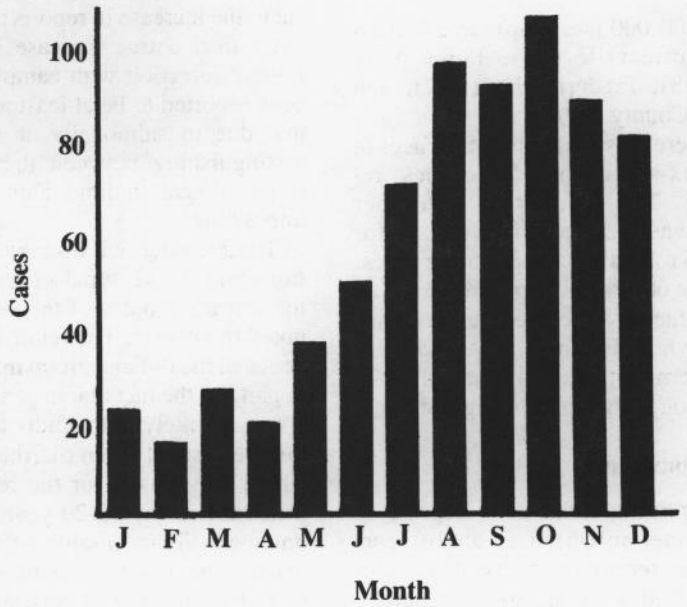
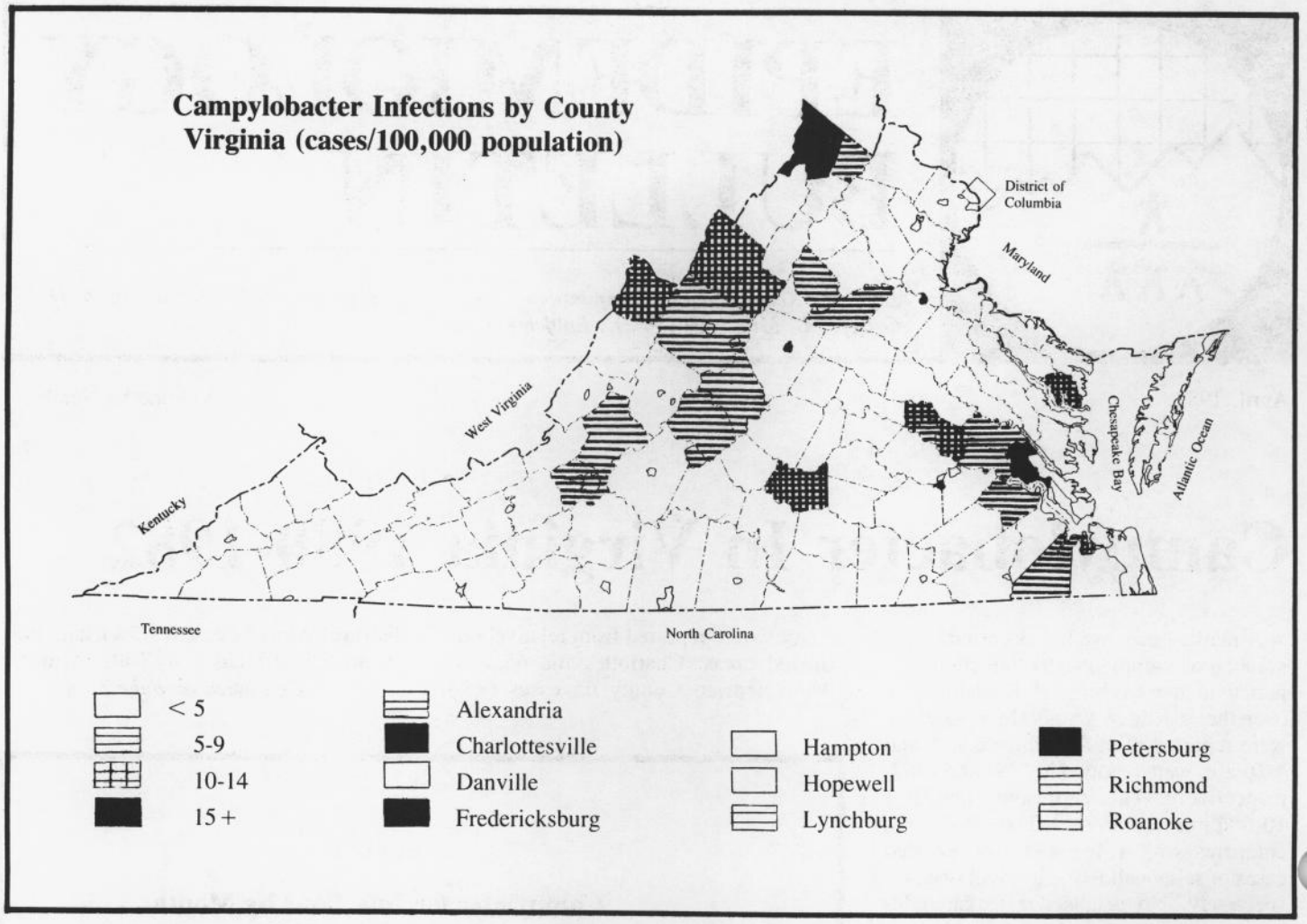
Figure 1

Campylobacter Infections by Month
Virginia 1980-1982





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rates per 100,000 (see map) were highest for Charlottesville (54), James City County (38), Fredericksburg (37), and Frederick County (19).

There were no significant differences in race- or sex-specific incidence rates, respectively. The number of cases per 100,000 was 2.2 for blacks, 2.0 for whites, 4.6 for males, and 3.9 for females. Age, on the other hand, appeared to be an important factor. Age-specific incidence rates, shown in Figure 2, revealed a bimodal pattern, with the 0-4 year and 20-29 year age groups showing the highest rates.

Editor's comment:

The increasing number of reports of campylobacter infection is almost certainly due to recent awareness of the significance of this organism as a human pathogen. This awareness has led to the more frequent use of appropriate transport media (e.g., Cary-Blair) and selective media for isolation (e.g., Campy-Bap). As such, the increase in reports probably does not reflect a true increase in incidence. Enteric infection with campylobacter has been reported to be at least as common as that due to salmonella or shigella, and distinguishing between these infections using clinical findings alone is probably impossible[1].

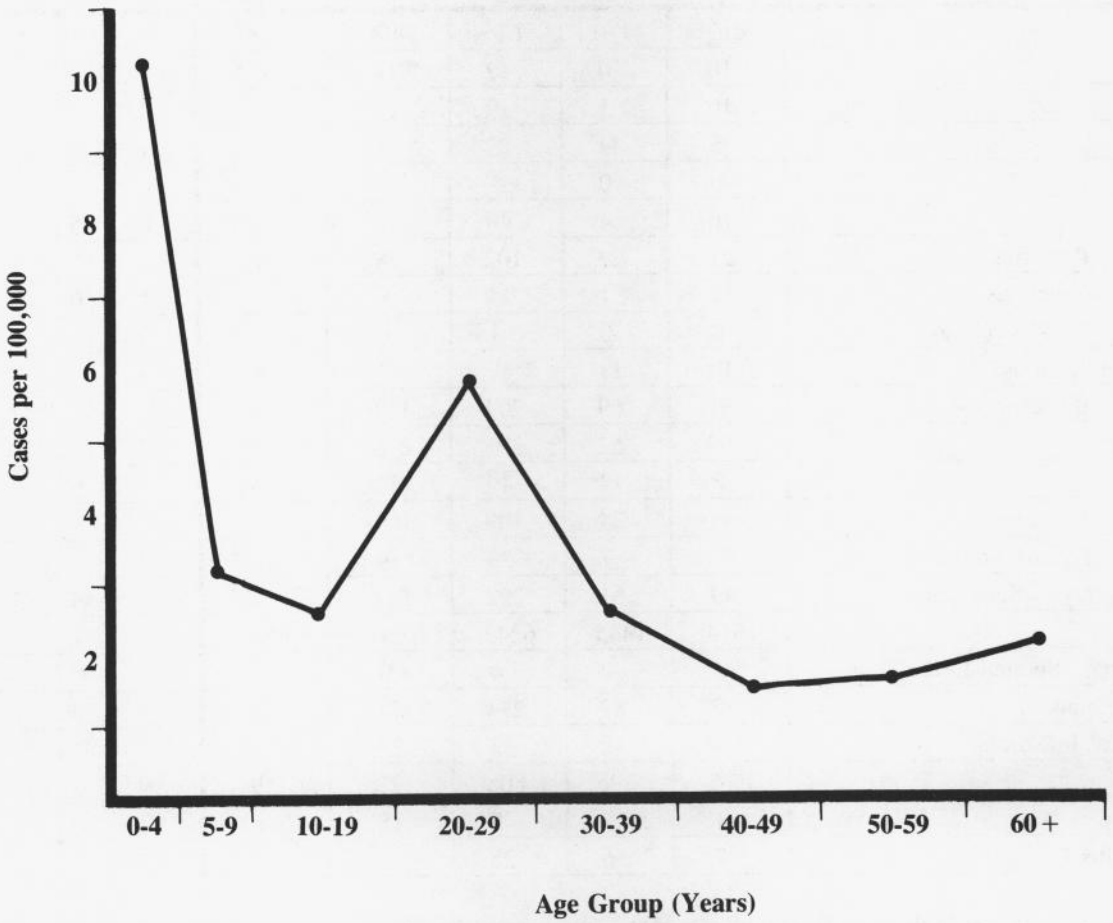
The bimodal age distribution of infections and the seasonal occurrence during the warmer months of the year have been noted by others[2]. The relatively high incidence in the 0-4 age group may be caused, in part, by the fact that in general, children are more likely than adults to have a culture performed when diarrheal illness occurs[3]. The reason for the relatively high incidence in the 20-29 year age group is unknown. Transmission of the infection usually occurs by means of fecal-oral spread from infected persons or animals, especially puppies and kittens. Foodborne and waterborne transmission has also occurred. It is not clear why this age group would be at higher risk given these modes of spread unless, perhaps, this group is more likely to consume high risk food items such as raw milk[4]. Are there other possible modes of transmission which would be more likely to involve this age group? Venereal transmission occurs in cattle but has not been documented in humans; such transmission has, however, been suggested in a report of *C. jejuni* proctitis in a homosexual male[5], and in a report of a patient with pelvic inflammatory disease from whom *C. fetus* subsp. *fetus** was isolated from a cul-de-sac aspirate[6].

Campylobacter enteritis is usually self-limiting. When symptoms are prolonged or severe (high fever, bloody stools) treatment with oral erythromycin has been recommended[3].

*According to revised CDC nomenclature, this organism would now be called *C. fetus* subsp. *venerealis*.

Figure 2

Incidence of Campylobacter by Age
Virginia 1980-82



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Month: April, 1983

Disease	State					Regions				
	This Month	Last Month	Total to Date 1983	Total to Date 1982	Mean 5 Year To Date	This Month N.W.	This Month N.	This Month S.W.	This Month C.	This Month E.
Chickenpox	263	170	616	408	588	15	110	21	8	109
Measles	10	0	12	14	423	7	3	0	0	0
Mumps	10	1	19	22	51	1	2	1	3	3
Pertussis	5	11	23	5	5	1	2	0	2	0
Rubella	0	0	1	8	52	0	0	0	0	0
Meningitis—Aseptic	16	4	48	30	28	0	5	2	3	6
Bacterial	21	23	102	78	70	2	3	6	4	6
Encephalitis—Infectious	2	1	14	9	7	1	0	0	0	1
Post-Infectious	0	0	1	0	3	0	0	0	0	0
Hepatitis A (Infectious)	10	11	47	61	83	1	2	2	1	4
B (Serum)	54	69	202	137	145	3	16	11	13	12
Salmonellosis	109	62	303	298	255	17	25	16	24	27
Shigellosis	8	14	49	54	132	1	6	0	0	1
Tuberculosis—Pulmonary	45	34	109	164	—	—	—	—	—	—
Extra-Pulmonary	5	7	23	29	—	—	—	—	—	—
Syphilis (Primary & Secondary)	49	53	202	199	193	2	8	3	15	21
Gonorrhea	1614	1445	6242	6170	6585	—	—	—	—	—
Rocky Mountain Spotted Fever	4	0	4	0	2	2	0	0	2	0
Rabies In Animals	87	82	274	128	30	13	73	1	0	0
Meningococcal Infections	9	10	33	23	33	3	1	3	1	1
Influenza	175	396	808	172	2194	8	5	75	81	6
Malaria	1	1	5	15	10	0	0	0	1	0
Other: Hepatitis Unspecified	7	6	25	38	55	2	1	0	0	4

Counties Reporting Animal Rabies: Arlington 1 raccoon; Scott 1 raccoon; Culpeper 2 raccoons; Stafford 1 raccoon; Fairfax 50 raccoons, 2 bats, 3 skunks, 1 gray fox, 1 red fox, 2 groundhogs; Fauquier 2 raccoons; Frederick 1 raccoon; Loudoun 9 raccoons; Orange 5 raccoons; Prince Wm. 4 raccoons; Augusta 1 raccoon, Bath 1 raccoon.

Occupational Illnesses: Occupational pneumoconioses 8; Occupational hearing loss 10; Asbestosis 2; Byssinosis 4.

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