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Managing Patients Who Test Positive for Hepatitis C*

Much of what used to be called parenterally-transmitted non-A, non-B hepatitis is being called hepatitis C, now that a screening test to detect antibody to a part (epitope) of the hepatitis C virus has been developed.

Clinical Features

Compared with hepatitis B, hepatitis C is frequently a milder illness during the acute stage but more often leads to chronicity. The patient may be asymptomatic or complain of anorexia, nausea, vomiting, abdominal discomfort or jaundice. In a small percentage of cases the illness may be fulminant and fatal. Over 50% of acute hepatitis C infections will lead to chronic hepatitis. Twenty percent of these will develop cirrhosis and possibly hepatic carcinoma.

Epidemiology

Hepatitis C accounts for 20-40% of the acute hepatitis cases in the United States[1] and is felt to be responsible for more than 90% of the post-transfusion hepatitis infections in the U.S. It is primarily spread through bloodborne routes (transfusion, IV drug use, percutaneous needlesticks) although some studies suggest that a smaller proportion of cases may be attributed to sexual and household contact.[2,3] Other studies have suggested that sexual activity plays little, if any, role in transmission.[4] Maternal-neonatal transmission has been documented in mothers who have acute hepatitis C in their third trimester of pregnancy.[3]

The usual incubation period for hepatitis C is 6-9 weeks (with a range of 2-24 weeks), compared to 3-4 weeks for hepatitis A and 8-12 weeks for hepatitis B.

Diagnosis

The clinical manifestations and epidemiologic characteristics of hepatitis C infection are not sufficiently distinct to allow a diagnosis without laboratory testing. The diagnosis is made by the clinical presentation of the patient, documentation of an elevated aminotransferase level (AST [SGOT], ALT [SGPT]), and exclusion of hepatitis A and hepatitis B using serologic tests. A screening serologic assay for hepatitis C antibody (anti-HCV) has been developed but is of limited usefulness in diagnosing recent infection. This assay is used primarily to screen blood donors, where it detects most persons with *chronic* infection. Appearance of antibody can be delayed for as long as 6-9 months after onset of illness, such that antibody will be detected in only 50% of patients during *acute* illness.

Because the anti-HCV assay yields a high number of false positive results, blood donors who test positive for anti-HCV when screened by a blood donation center should consult their physicians. Physicians should ascertain by history if there

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are risk factors for exposure, consider having the test repeated (the test is available through several major commercial testing laboratories in Virginia), and determine the patient's serum aminotransferase levels. Unfortunately, only the recently described four-antigen immunoblot assay (4-RIBA) appears to show some promise as a confirmatory test, but is not readily available to most clinicians.[5] If aminotransferase levels are within normal limits, Harvey Alter, MD (NIH) has suggested no further diagnostic action; if levels are elevated, consideration should be given to referring patients with suspected chronic hepatitis to a gastroenterologist for a liver biopsy.[6]

The Centers for Disease Control's (CDC) surveillance case definition for hepatitis C is 1) IgM anti-HAV negative *and* 2) IgM anti-HBc negative (if done) or HBsAg negative *and* 3) serum aminotransferase levels greater than 2 1/2 times the upper limit of normal.[7] A case meeting this definition should be reported to the appropriate local health department.

Prevention and Treatment

The effectiveness of giving Immune Globulin (IG) to persons with percutaneous exposure to blood from a confirmed case of hepatitis C is unclear. The Immunization Practices Advisory Committee of the U.S. Public Health Service (ACIP), however, states that IG 0.06 ml/kg given as soon as possible after such exposures may be reasonable.[1] The value of IG for household or sexual contacts of a hepatitis C case is also unclear and administration has not been recommended.

Safer sexual practices (e.g. use of condoms) are generally recommended, regardless of anti-HCV status, for sexually active persons outside of a mutually monogamous relationship. Given the currently undefined importance of sexual activity in the transmission of hepatitis C virus, no authoritative guidelines have been issued regarding safer sexual practices for patients with detectable antibody to hepatitis C virus who have mutually monogamous relationships.

Acyclovir and corticosteroids have not been effective in treatment. Early studies suggest that recombinant interferon alpha-2b may be of some benefit to profoundly symptomatic chronic carriers.

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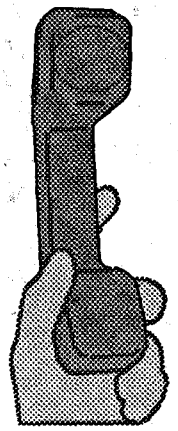
** Adapted from: Office of Epidemiology, New Mexico Health and Environment Department. Hepatitis C. Epidemiology Report 1990;(Dec):1-2.*

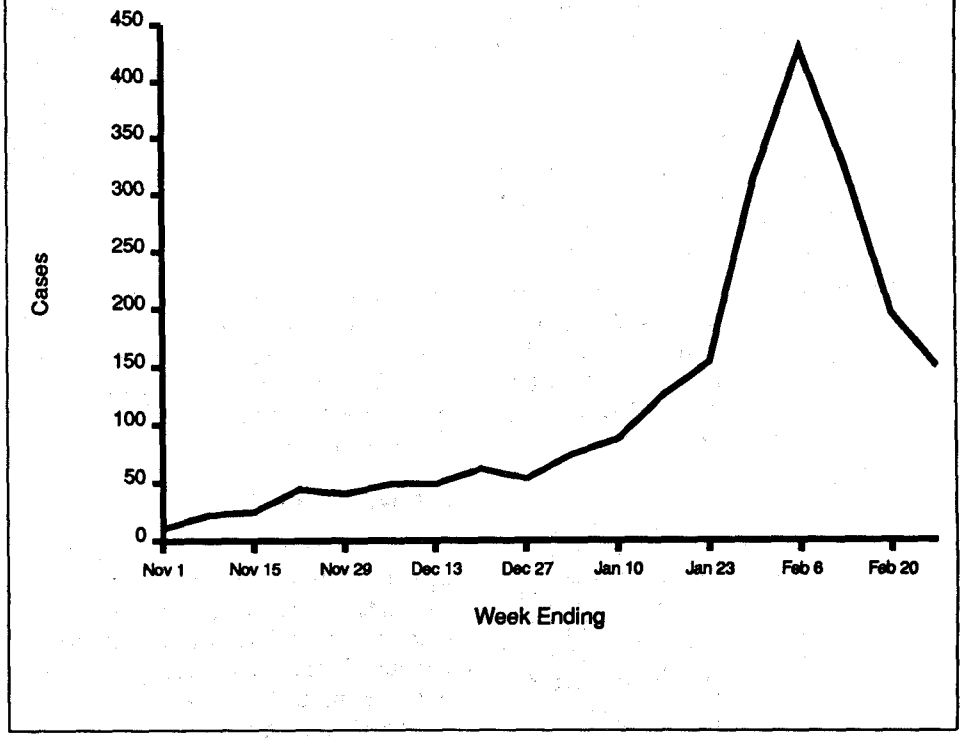
Hepatitis Hotline



The Centers for Disease Control's Hepatitis Branch, Division of Viral and Rickettsial Diseases, Center for Infectious Diseases, now has an automated telephone system that provides information on viral hepatitis, including modes of transmission, prevention, serologic diagnosis, infection control, and statistics. Persons requesting information on viral hepatitis should call the CDC Disease Information Hotline at (404) 332-4555. Advice will continue to be available from local health departments and the Office of Epidemiology (804/786-6261).

Source: MMWR 1990;39:297.

Influenza-like Illness Reported by Sentinel Physicians (N=42) in Virginia. Widespread Activity Peaked in Early February. Influenza B Virus Has Been Isolated from Patients Seen in the Eastern, Northern, Southwestern, and Central Regions of the State.



Rotavirus Gastroenteritis*

Rotavirus infection is the most common cause of dehydrating diarrhea in children in the United States.[1-2] In January 1989, CDC established a National Rotavirus Surveillance System (NRSS) to monitor national patterns in the epidemiology of rotavirus.

From January 1989 through November 1990, 56 laboratories submitted reports every month; they included 12 pediatric, 17 community, and 23 university hospital laboratories; two public health laboratories; and two commercial laboratories. To detect rotavirus, 46 (82%) of these laboratories used enzyme immunoassay techniques, four used a latex agglutination test, and six used electron microscopy.

For the 23-month period, 48,035 specimens were tested for rotavirus; 9639 (20%) were positive. The total number of specimens tested each month varied from 1410 in September 1990 to 3275 in January 1990. For all centers combined, the percentage of positive specimens was highest in February 1990 (36% of 2925) and lowest in October 1990 (6% of 1817) (See figure).

October 1989 through May 1990 was the first full rotavirus season for prospective surveillance in the United States. During that period, peaks in the positive detection rate varied by region, beginning in December in the West, January-February in the South, February in the North Central, and March in the Northeast. By June, no region had more than 16% positive detections, and three of the four regions had less than 10% positive detections. For the 1990-91 rotavirus season, an increase in positive detections was reported in the West during November 1990 (positive rate of 21%) when compared with August-October (1%-4%).

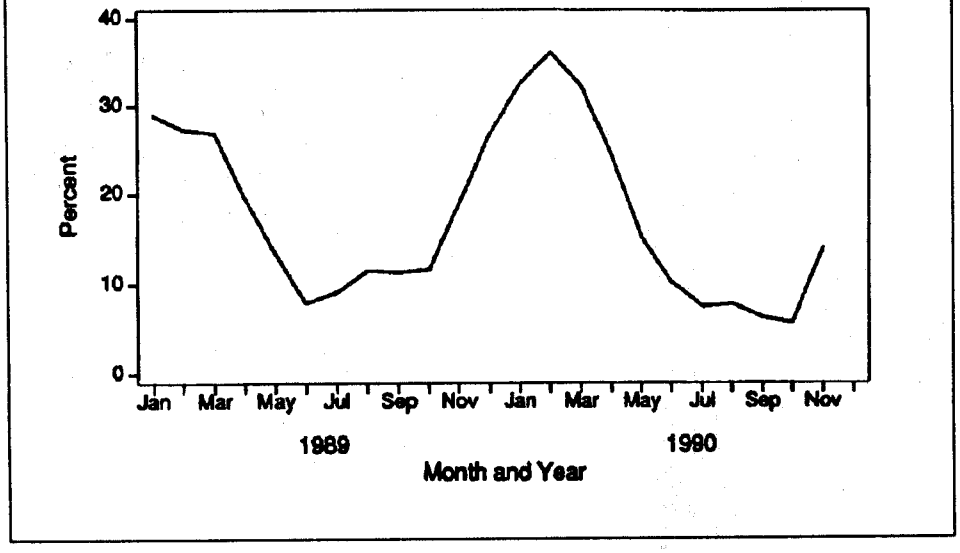
Editorial Note: Rotavirus, the most important cause of pediatric gastroenteritis in the United States, is responsible for an estimated one third of all hospitalizations for diarrhea in children less than 5 years of age.[3] These hospitalizations occur predominantly in the winter, and in one large children's hospital, rotavirus accounted for 3% of all hospital days.[4] Rotavirus disease-associated hospitalization rates are highest for children less than 2 years of age.[3,4]

From 1979 through 1985, an average of 500 children died annually from diarrheal disease in the United States;[5] an estimated 20% of these deaths were caused by rotavirus infection.[3] Death rates for diarrheal disease were highest in the South and among black children less than 6 months of age.[5] Patterns of childhood mortality related to diarrheal disease reflect the winter seasonality of rotavirus.[3]

Because national rotavirus surveillance data suggest an increase in the risk for rotavirus infections from October through May, physicians should consider rotavirus as a cause of diarrhea in groups at risk and be familiar with approaches for management of this disease. Many deaths and hospitalizations may be prevented by the aggressive use of oral rehydration therapy, which is underused.[6-8] Vaccines for prevention or modification of rotavirus diarrhea are under development but are unlikely to be available for 3-5 years.

For most children hospitalized with rotavirus gastroenteritis, no laboratory diagnosis is made,[4] and only a small number of deaths from rotavirus infection have been virologically confirmed.[9] Because the ninth revision of the International Classification of Diseases (ICD) did not include a rubric for rotavirus enteritis, proxy codes have been used to reflect this cause of death; however, the 10th revision will introduce a specific rubric. The wider use of rapid diagnostic tests for rotavirus, combined with the use of a specific ICD rubric, will permit improved surveillance of rotavirus hospitalizations and deaths.

Percentage of Laboratory Tests Positive for Rotavirus——United States, January 1989-November 1990.



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** Adapted from MMWR 1991;40:80-87.*

Cases of Selected Notifiable Diseases, Virginia, February 1 through February 28, 1991.

Disease	Total Cases Reported This Month						Total Cases Reported to Date in Virginia		
	State	Regions NW	N	SW	C	E	This Yr	Last Yr	5 Yr Avg
AIDS	59	2	25	9	10	13	97	107	61
Campylobacter	26	8	5	5	7	1	49	68	62
Gonorrhea	1031	-	-	-	-	-	2166	2725	2647
Hepatitis A	22	1	9	0	4	8	26	17	22
Hepatitis B	23	3	3	4	2	11	36	33	50
Hepatitis NANB	1	1	0	0	0	0	3	5	7
Influenza	145	12	0	27	36	70	357	657	1298
Kawasaki Syndrome	4	0	1	0	0	3	5	2	3
Legionellosis	1	1	0	0	0	0	2	2	2
Lyme Disease	2	0	1	0	0	1	2	3	1
Measles	0	0	0	0	0	0	0	5	1
Meningitis, Aseptic	19	0	5	3	2	9	27	34	28
Meningitis, Bacterial*	18	4	1	1	3	9	27	18	33
Meningococcal Infections	6	1	2	1	0	2	7	13	11
Mumps	5	1	0	0	0	4	10	9	7
Pertussis	1	1	0	0	0	0	2	4	7
Rabies in Animals	15	6	3	1	2	3	22	24	35
Reye Syndrome	0	0	0	0	0	0	0	0	0
Rocky Mountain Spotted Fever	0	0	0	0	0	0	0	0	0
Rubella	0	0	0	0	0	0	0	0	0
Salmonellosis	54	8	21	4	15	6	129	165	149
Shigellosis	19	4	5	8	2	0	27	26	46
Syphilis (Primary & Secondary)	79	8	19	6	20	26	146	112	77
Tuberculosis	17	3	0	0	11	3	24	24	47

Localities Reporting Animal Rabies: Gloucester 2 raccoons; Isle of Wight 1 raccoon; Loudoun 1 cat, 2 raccoons; Prince Edward 1 raccoon; Rockingham 1 fox, 1 skunk; Shenandoah 1 skunk; Surry 1 skunk; Warren 1 fox, 1 raccoon, 1 skunk; Washington 1 skunk.

Occupational Illnesses: Asbestosis 39; Carpal Tunnel Syndrome 39; Coal Workers' Pneumoconiosis 43; Loss of Hearing 6; Mesothelioma 1; Repetitive Motion Disorder 5; Silicosis 2.
*other than meningococcal

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