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TULANE UNIV. EPIDEMIOLOGY UNIT AND PUBLIC HEALTH STATISTICS

ROCKY MOUNTAIN SPOTTED FEVER

Although Rocky Mountain Spotted Fever is a rare disease in Louisiana, it does occur and has recently caused a death in Louisiana. A report on this is presented below as a reminder to physicians that Rocky Mountain Spotted Fever must be considered in the differential diagnosis of a patient who presents with fever, headache, and rash, especially between April and September when the majority of cases occur.

CASE REPORT

A 6 year old white female from Claiborne Parish presented to her local physician with fever and malaise. The

family gave a history of urinary tract infection in the past and urinalysis showed 4-5 WBC's per HBF with a few clumps of WBC's. The child was put on Ampicillin but when she returned for follow-up a few days later, she still had a fever and was not feeling any better. The local physician referred the patient to a urologist who could find no urinary problem. The child's condition worsened and she was admitted to a hospital under the care of a pediatrician. At the time of admission, the patient had fever, rash, petechiae, and hemorrhage. A pediatrician specializing in infectious diseases made a clinical diagnosis of Rocky Mountain Spotted Fever. On further questioning, the mother gave a history of removing a tick from the

BULLETINS

SYPHILIS — ON THE UPSWING

Louisiana has experienced a marked increase in the number of cases of infectious syphilis (primary and secondary) during the first 6 months of 1979. While the nation at large had a 16.4% increase in cases over the same period last year, Louisiana had a 40.5% increase. During the last several years, Louisiana has consistently been in the top 10 states in the number of cases of primary and secondary syphilis reported per 100,000 population (1976 - 15.4, 1977 - 15.6, and 1978 - 18.1). At the current level of activity, Louisiana is approaching 24 cases per 100,000 population. The Parishes with the largest increases in the number of new cases this year include Beauregard, Calcasieu, East Baton Rouge, Madison, Morehouse, Ouachita, Orleans, Vernon, and Union.

Private physicians are urged to report all cases of syphilis to the local health unit. Communicable Disease Personnel investigate each case of syphilis and arrange for treatment of all contacts. It is estimated that 15 to 30% of untreated syphilis contacts will eventually develop syphilis. Since the incubation period of the disease can be as long as 3 months, a negative VDRL in contacts soon after exposure does not rule out the disease. Therefore, all contacts should be treated as soon as possible after exposure with 2.4 m.u. of Benzathine Penicillin G.

TETANUS IN AN UNIMMUNIZED CHILD

A seven year old male from Acadia Parish is now in the hospital recovering from a severe case of tetanus. The patient gave a history of stepping on a nail and five days later developing severe muscle spasms and arching of his back. The diagnosis was suspected immediately and the patient was begun on tetanus antitoxin. To relieve the severe muscle spasms, the patient was paralyzed with Pavulon and put on a respirator. He is now slowly recovering but has been on a respirator for over one month.

The patient has no record of ever receiving a primary series of tetanus vaccine. He and one unvaccinated brother had been allowed to enter school in violation of the state school entrance immunization law. Also, they had been allowed to continue attending school despite a clear-cut directive from the State Superintendent of Education in 1977. This directive stated that all children up to age 15 should be up to date on all immunizations in order to remain in school.

While most school officials are now enforcing the immunization requirement, a few have been reluctant to exclude those without proof of immunization. Such reluctance by the officials of one school has resulted in a child on a respirator suffering from a totally preventable disease. We urge all physicians, nurses, and other medical personnel to encourage their local school officials to comply with school immunization laws.

child's groin a week prior to the onset of illness. The patient was started on chloramphenicol but died of fulminant disease the day after admission and 1 week after the onset of her illness. An acute serum specimen had a complement fixation titer of 1:64 for Rocky Mountain Spotted Fever.

DISCUSSION

From 1920 until the late 1940's, the number of reported cases of Rocky Mountain Spotted Fever rose steadily. In the 1950's, the number of cases decreased, with an all-time low of 199 cases reported nationally in 1959. In the 1960's, this downward trend was reversed and there has been a steady increase in the number of reported cases. A preliminary total of 1,011 cases were reported nationwide in 1978. This is a 12% decrease from 1977 and only the first time since 1970 that the incidence of the disease has declined. The name "Rocky Mountain" Spotted Fever is really a misnomer since the disease is rare in the Western Mountain States and about half of the cases occur in the South Atlantic states, especially North Carolina, Virginia, South Carolina, Georgia, and Maryland. In 1978, North Carolina reported the most cases, followed by Tennessee and Virginia. Between 1975 and 1977, 39 states reported cases of Rocky Mountain Spotted Fever.

The number of reported cases of Rocky Mountain Spotted Fever has remained relatively constant in Louisiana over the last 10 years with 0-2 cases reported each year except for 1977, when 7 were reported. Additional cases may go undiagnosed each year because of a low index of suspicion for this disease in the state. The majority of Louisiana cases come from the Northern part of the state.

Rocky Mountain Spotted Fever is primarily a disease of children and young adults. Over 60% of cases occur in individuals under 20 years of age. Males are affected more commonly than females (1.6:1 in 1978). The case fatality rate for blacks last year was 16.4% compared to 3.1% in whites. The high case fatality rate in blacks may reflect difficulties in detecting the characteristic early centripetal rash on darker pigmented skin.

Rocky Mountain Spotted Fever is a rickettsial disease that infects man through the bite of an infected tick, but also can infect through the feces of a tick on the skin or through a tick's crushed tissues remaining attached to the skin. Ticks need to be attached for several hours before transmitting infection and a degree of prevention can therefore be accomplished by promptly removing ticks.

The incubation period is 3 to 10 days. The onset is

sudden and the usual symptom complex includes fever, joint and bone pains, photophobia, headache, conjunctivities, abdominal pain, nausea, and vomiting. A maculopapular rash on the extremities (often including palms and soles) appears shortly after onset. In untreated cases, the rash becomes petechial and even hemorrhagic. During the second week of illness, CNS, circulatory, and pulmonary problems are seen in untreated patients.

Early diagnosis and treatment must be made on the basis of history and clinical evidence since laboratory confirmation through Weil-Felix agglutination and complement fixation tests are rarely positive until 10-14 days after onset of illness. Acute and convalescent sera should be submitted for testing. The Weil-Felix agglutinations (Proteus OX-19, OX-2) are very non-specific screening tests and positive results need to be confirmed with complement fixation testing.

The differential diagnosis of febrile rash illnesses includes measles, murine typhus, meningococcemia, typhoid fever, rickettsial pox, and viral exanthems (e.g. ECHO and Coxsackie).

Early diagnosis and treatment of suspect cases is absolutely essential since delay in recognizing the disease and instituting therapy can be fatal, as our case report illustrates. The diagnosis early in the disease can be difficult for even the most astute clinicians to recognize, but if suspected, treatment with tetracycline or chloramphenicol should be instituted immediately.

NB: During the summer, parents often bring their children to local physicians or emergency rooms for removal of firmly attached ticks. These ticks should be removed promptly and carefully, without crushing, by gentle steady traction to avoid leaving tick mouth parts in the skin. The person removing the tick should be careful to protect his own hands from tick contact. Tweezers or folded paper are suggested. The patient should also be warned to return immediately if he/she develops any of the early signs of Rocky Mountain Spotted Fever.

REFERENCES:

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IMMUNIZATIONS FOR FOREIGN TRAVEL

(No. 4 in Series)

Smallpox Vaccination — The Case for Elimination

Smallpox vaccine was discussed in the February issue of Louisiana Monthly Morbidity. It was emphasized that no indigenous case of smallpox had been reported anywhere in the world since October 1977. The recommendation at that time was that "the risk of complication from smallpox vaccination clearly outweighs the threat of disease, and smallpox should be given only if a country being visited absolutely requires it." The feature article in the weekly bulletin of the National Center for Disease Control (MMWR) recently reviewed the current status of smallpox vaccination. It reviewed four case reports of adverse reactions of vaccination. All were avoidable cases since vaccine in each case was contraindicated. The four cases involved vaccine given in the following circumstances: (1) for a presumed herpes simplex infection, (2) for overseas travel to Germany, (3) as a routine vaccination in an Army reservist with chronic lymphatic leukemia and (4) to a woman eight weeks pregnant whose child at term had fetal vaccinia and died shortly after birth. These cases illustrate the following points:

- (A) Smallpox vaccine, a live virus vaccine, is contraindicated in pregnant women and in persons with malignancies or those on immunosuppressive therapy.
- (B) Smallpox vaccine continues to be used by physicians for treatment of herpetic infections despite the failure to demonstrate efficacy and the proven danger of the therapy.
- (C) Fetal vaccinia, although rare, can occur in offspring of vaccinees.

There are no current medical reasons for countries to require smallpox vaccine for any traveler. Many countries

move very slowly in changing their immunization requirements and there are still several which require smallpox vaccination as a condition of entry. The vast majority of United States travelers go to Mexico, Canada, Europe, the Caribbean Islands, and Israel and none of these require smallpox vaccination. Since smallpox is no longer a threat and the vaccine can cause serious adverse side effects, some United States health authorities have recently advocated giving smallpox vaccination waiver letters to travelers going to countries still requiring vaccination. This letter, which should be written on physician letterhead stationary, should state that vaccination is contraindicated for medical reasons. The letter should be dated, signed by a physician, and validated by an official vaccination stamp. Colorado and California have adopted this policy and in personal communications with the health departments in both states, they have mentioned no problems in implementing their policy. The Peoples' Republic of China was the only country which officially was not accepting the waiver letters and they have recently stopped requiring vaccination. Even tour groups with all members carrying vaccination waiver letters have apparently had no trouble in obtaining clearance from health authorities in countries requiring vaccination. There may be an occasional immigration officer acting contrary to national policy who might delay a traveler at his national border, but this has been the rare exception rather than the rule. The State Communicable Disease Control Section heartily supports the idea of the waiver letter in lieu of vaccination. If a traveler insists on being vaccinated, he should be given the smallpox vaccine only after being counseled about the risks and medical contraindications of vaccination. We hope that physicians in Louisiana will adopt our recommendations and eliminate unnecessary and potentially dangerous smallpox vaccinations.

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SELECTED REPORTABLE DISEASES (By Place of Residence)

STATE AND PARISH TOTALS	VACCINE PREVENTABLE DISEASES					ASEPTIC MENINGITIS	HEPATITIS A AND UNSPECIFIED	HEPATITIS B	LEGIONNAIRES DISEASE	MALARIA**	MENINGOCOCCAL INFECTIONS	SHIGELLOSIS	TUBERCULOSIS, PULMONARY	TYPHOID FEVER	OTHER SALMONELLOSIS	UNDERNUTRITION SEVERE	GONORRHEA	SYPHILIS, PRIMARY AND SECONDARY	RABIES IN ANIMALS (PARISH TOTALS CUMULATIVE, 1979)
	MEASLES	RUBELLA*	MUMPS	PERTUSSIS	TETANUS														
Reported Morbidity June, 1979																			
TOTAL TO DATE 19 78	311	467	54	4	1	24	354	98	N.A.	3	80	53	250	1	49	6	11002	333	11
TOTAL TO DATE 19 79	244	25	30	9	1	38	311	127	0	3	112	49	299	3	59	3	11083	459	17
TOTAL THIS MONTH	36	0	2	2	1	13	45	31	0	0	16	18	56	0	16	0	1758	89	6
ACADIA						4		1									4		
ALLEN																	7		
ASCENSION				1													6		
ASSUMPTION																	1		
AVOYELLES																	4		
BEAUREGARD												1					1	4	
BIENVILLE	3																7		
BOSSIER	2																22		4
CADDO	6						3	6			1	11	5		7		140	1	3
CALCASIEU								1					2				99	2	
CALDWELL												1		2			1		
CAMERON							1												
CATAHOULA																			
CLAIBORNE														1			10		
CONCORDIA																	2		
DESOTO																	4		2
EAST BATON ROUGE						1		1			1		2				130	11	
EAST CARROLL							2						1				14	1	
EAST FELICIANA																	3		
EVANGELINE																			
FRANKLIN																	1		
GRANT			1														1		
IBERIA							1										2		
IBERVILLE												2					6		
JACKSON	5																1		1
JEFFERSON	1					2	8	3			5	3	3				103	5	
JEFFERSON DAVIS	1																14		
LAFAYETTE					1	2	8	11				1	2		1		18		
LAFOURCHE				1			3	1			1	1					3		
LASALLE																	2		
LINCOLN	4												1				2		
LIVINGSTON											1		1		1		2		
MADISON																	6		
MOREHOUSE																	6	4	
NATCHITOCHES																	18		
ORLEANS						1	8	1			2		20				801	42	
OUACHITA								1					5				73	7	
PLAQUEMINES																	4		
POINTE COUPEE																	1		
RAPIDES	11						2	1				2	2				94	5	3
RED RIVER			1																1
RICHLAND																			
SABINE													1				5		
ST. BERNARD							2	1					2				3		
ST. CHARLES																	4		
ST. HELENA																			
ST. JAMES																	4		
ST. JOHN																	1		
ST. LANDRY							1										12	2	
ST. MARTIN							1										3		
ST. MARY								1			1						1		
ST. TAMMANY							2							1			11		
TANGIPAHOA	1						1						1				29		
TENSAS																	1		
TERREBONNE						1					3		1				6		
UNION													1						
VERMILION						1	1								1		1		
VERNON																	2	5	
WASHINGTON	1												1				15		
WEBSTER								1							1		13		2
WEST BATON ROUGE																	9		
WEST CARROLL															1		5		
WEST FELICIANA						1	1	1				1					4		
WINN	1										1						4		1
OUT OF STATE																	12		

* Includes Rubella, Congenital Syndrome.
** Acquired outside United States unless otherwise stated.

N.A. = Not Available.

From January 1, through June 30, 1979, the following cases were also reported: 1 - Typhus Fever, Endemic; 10 - Trichinosis; 1 - Psittacosis; 3 - Leptospirosis; 1 - Rocky Mountain Spotted Fever.