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OFFICE OF HEALTH SERVICES
AND ENVIRONMENTAL QUALITY

MONTHLY MORBIDITY REPORT

Provisional Statistics

from the

OFFICE OF PUBLIC HEALTH STATISTICS

REPORTED MORBIDITY
FEBRUARY, 1979

SEROLOGIC TESTS FOR SYPHILIS

There have been many questions recently concerning the use and interpretation of serologic tests for syphilis. The following *general* syphilis diagnosis guidelines are offered in an attempt to answer some of these questions.

NON-TREPONEMAL TESTS

Screening

Because of the economy and availability of these tests, all blood specimens for diagnostic testing should first be subjected to a standard non-treponemal antigen test or a satisfactory screening test.

These include RPR (Rapid Plasma Reagin) card, VDRL (Venereal Disease Research Laboratory) slide, ART (Automated Reagin Test), and USR (Unheated Serum Reagin) slide.

These qualitative reagin tests are read as negative, weakly reactive or reactive. They are *not diagnostic*, and if weakly reactive or reactive, merely indicate a need for more specific quantitative tests.

A reactive screening test should be confirmed by a quantitative reagin tube test, not by another screening test, nor by a treponemal test.

Quantitative (RPR, VDRL, ART, USR)

The RPR, USR and ART tend to be more sensitive than the VDRL and frequently read one or two tubes higher on titration. The tests are titrated from one dilution (1:1) by double increases (e.g. 1:1, 1:2, 1:4, 1:8 . . .) and usually are not reported at dilutions higher than one hundred twenty eight (1:128).

In the absence of signs, symptoms, or history suggestive of syphilis, or epidemiologic contact with syphilis, any quantitative reaction demands at least one repeat quantitative test, preferably a week to 10 days after the first. At least two quantitative tests of the *same type* are necessary for comparison to determine the status of possible infection.

Interpretation of Quantitative Tests

A fourfold (e.g. 1:4 to 1:16) or greater increase in titer usually indicates active disease. A stable titer calls for more repeat quantitative tests and more comprehensive medical history. A fourfold decrease in titer frequently indicates false positive reactions or the effects of intervening therapy.

All patients with reactive quantitative tests should have a thorough history and physical examination for signs and symptoms suggesting syphilis infection or possible prior treatment. They should also be questioned for possible contact to a known syphilis case.

Patients with a primary chancre will have a rapidly rising titer. The serology may be non-reactive for up to a week after appearance of the lesion , but rises rapidly to high titers. Patients with secondary lesions usually have high titers, ranging from about 1:16 to 1:128 or more.

Latent syphilis (duration of infection $\geq$ 1 year) may have serologic titers ranging from non-reactive to about 1:16. Early latent syphilis ($\leq$ 1 year duration) yields high titers that decrease with time, usually years. Inadvertent antibiotic treatment, whether adequate or not, usually reduces the titers.

A diagnosis of asymptomatic neurosyphilis usually requires a reactive CSF VDRL, an increased number of cells, and /or abnormal protein on spinal fluid testing.

Symptomatic late syphilis is comparatively rare, mainly because routine serologic tests discover many latent infections resulting in

treatment, and to some degree infections are decreased by inadvertent antibiotic treatment during the long latency period. Titers of symptomatic late syphilis may be low, even non-reactive, and call for thorough physical examination.

All suspect syphilis lesions should be considered for examination for Treponema pallidum by darkfield microscopy. Positive findings on other than oral lesions are diagnostic.

TREPONEMAL TESTS

FTA-Abs (Fluorescent Treponemal Antibody Absorption)
MHA-TP (Microhemagglutination-Treponema Pallidum)

The FTA-Abs is the standard treponemal test for syphilis. The MHA-TP is not as sensitive as the FTA-Abs in primary syphilis, and at this time is a provisional technique, not a standard test.

The treponemal test is reserved for diagnostic problem cases. It should *not be used routinely* or simply because of a reactive screening test or a reactive single-specimen quantitative test. It is not indicated for patients with histories of prior infection or treatment of syphilis, since these patients will have a reactive treponemal test indefinitely. In previously treated patients, a reactive treponemal test does not indicate a need for re-treatment.

The FTA-Abs is read as non-reactive, borderline or reactive. Non-reactive usually rules out syphilis, borderline should be repeated, and reactive usually indicates syphilis, treated (adequately or inadequately) or untreated.

Where signs, symptoms, history or epidemiology combine with reactive quantitative non-treponemal tests for a diagnosis of syphilis, a treponemal test need not be performed.

At present, treponemal tests *should not* be performed on spinal fluid because of the high number of false positive reactions in this use of the test. However, a reactive VDRL spinal fluid test is virtually diagnostic of central nervous system syphilis.

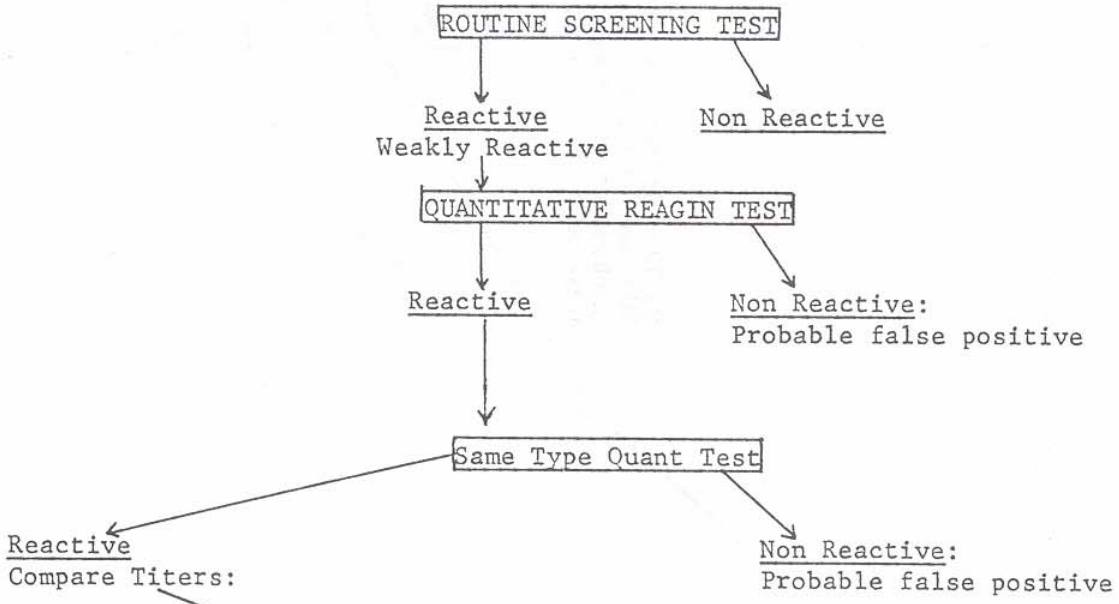
The misuse of the FTA-Abs test has unnecessarily increased the workload in many reference laboratories and has resulted in numerous problems in interpretation of results due to application of the test to the wrong population.

"KEEP IN MIND THAT NO SEROLOGIC TEST FOR SYPHILIS CAN MAKE A DIAGNOSIS BY ITSELF OR DISTINGUISH BETWEEN ACTIVE (NEVER TREATED OR INADEQUATELY TREATED) SYPHILIS AND INACTIVE (ADEQUATELY TREATED) SYPHILIS BUT MUST BE COUPLED WITH A CAREFUL HISTORY AND A THOROUGH PHYSICAL EXAMINATION BEFORE A DIAGNOSIS CAN BE MADE." [1]

REFERENCES

1. The Laboratory Aspects of Syphilis, DHEW, Public Health Service, Center for Disease Control, June, 1976.
2. Syphilis, Modern Diagnosis and Management, DHEW, Public Health Service Publication 743, rev. July, 1961.
3. Syphilis, A Synopsis, DHEW, Public Health Service Publication 1660, January, 1968.

Schematic Approach To Patient With Positive Serologic Test for Syphilis.



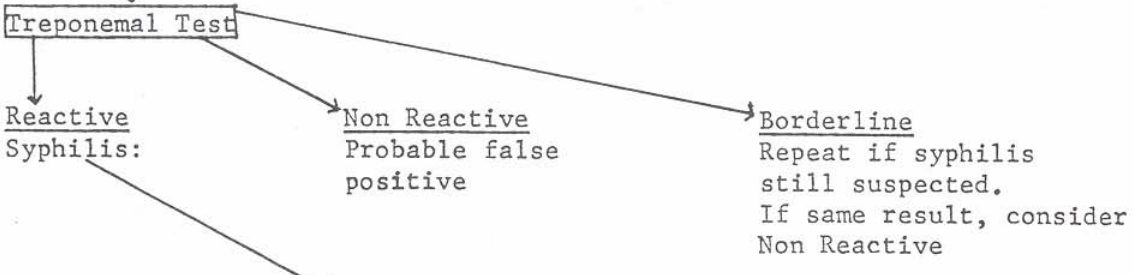
1. Fourfold increase usually indicates active syphilis

2. Stable titers (less than fourfold change) may indicate Latent Syphilis, Treated (Adequately or Not) or Untreated

3. Fourfold decrease usually indicates false positive reactions or treated infection

Seek Closer History, Physical Exam, Epidemiologic Link.

In absence of any of the above to explain repeated reactives:

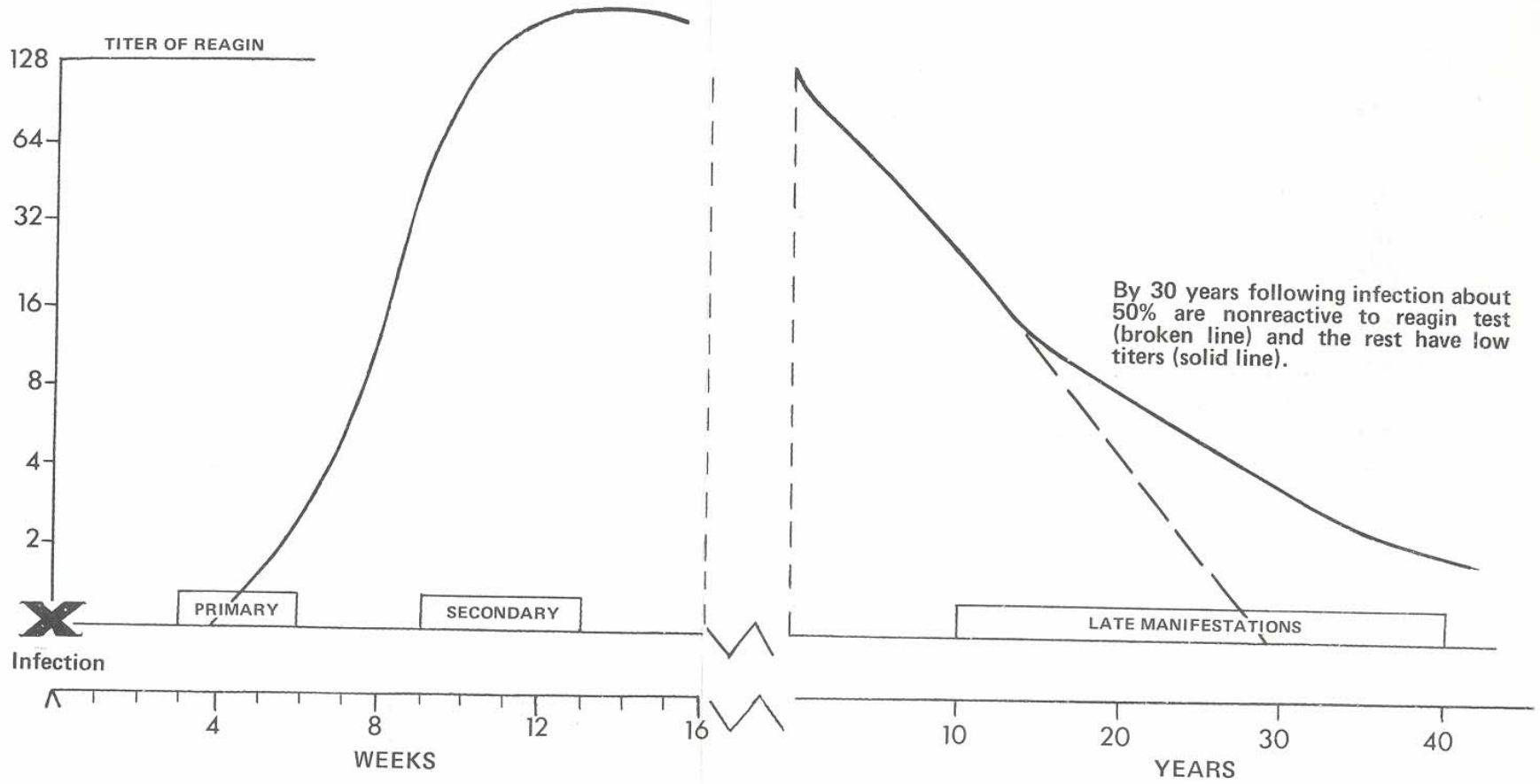


1. Previous Adequate Treatment - verify prior treatment schedule

2. Previous Treatment Inadequate or Unknown - determine current stage of infection for treatment and management.

3. Untreated - determine stage for treatment and management.

THE COURSE OF NON-TREPONEMAL TESTS IN UNTREATED SYPHILIS



Reprinted from Syphilis, A Synopsis, DHEW, PHS Publication 1660, Jan., 1968.

CHANGES IN IMMUNIZATION REQUIREMENTS FOR INTERNATIONAL TRAVEL

Required vaccinations for international travel are constantly in flux because of the changing geographic patterns of disease. These changing requirements necessitate that travelers review their itinerary carefully with travel agencies, tour groups, or local or state health authorities to determine the exact requirements for their journey.

The United States does not require any vaccinations for reentry into the country. Also, over the last few years most countries on the usual American tourist routes have dropped their vaccination requirements. Now, barring a few notable exceptions, travelers can go almost anywhere in the Americas (North, Central, South, or the Caribbean), Europe, and Oceania without any vaccinations whatsoever. A complete set of vaccinations should not be given indiscriminately to all travelers. There is a small but definite risk associated with any vaccination and if there are no official requirements for a particular vaccine and the area visited has little or no disease, vaccination for that disease should not be given.

Although vaccination requirements are constantly changing, several trends are clearly discernible and these will be reviewed in this and subsequent issues of our Monthly Morbidity. The risk from non-immunizable diseases such as malaria and travelers' diarrhea will also be featured. This issue will review smallpox.

SMALLPOX

There are only two countries in the Western Hemisphere that now require that travelers have proof of vaccination against smallpox. These countries are Bolivia in South America and Belize in Central America. Travelers to the Caribbean Islands, Europe, and Oceania do not need smallpox vaccinations. Many African and some Asian countries still require proof of smallpox vaccination of all arriving travelers.

The WHO-sponsored worldwide smallpox eradication campaign has been a tremendous success and over a 10 year period has effectively eliminated smallpox as a human disease. The last indigenous case of smallpox was reported from Somalia in October 1977. Since there have been no reported cases in almost two years (except for a lab accident in England), it is hoped that all countries will eventually eliminate their requirements for smallpox vaccinations.

Currently, the risk of complications from smallpox vaccination clearly outweighs the threat of disease, and smallpox should be given only if a country being visited absolutely requires it.

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SELECTED REPORTABLE DISEASES
(By Place of Residence)

STATE AND PARISH TOTALS February, 1979	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														
TOTAL TO DATE 1978	115	31	6	0	0	0	67	22	N.A.	2	18	16	85	0	8	1	3427	106	2
TOTAL TO DATE 1979	56	5	3	4	0	10	104	36	0	0	52	8	103	0	19	0	3571	117	1
TOTAL THIS MONTH	50	5	3	4	0	6	67	24	0	0	47	5	55	0	12	0	1578	56	1
ACADIA							1				2						4		
ALLEN																	2		
ASCENSION																	4		
ASSUMPTION				1									1				3		
AVOYELLES													2				3		
BEAUREGARD																	6		
BIENVILLE													1				1		
BOSSIER	2	2													1		18		
CADDO							3				1	1	5		1		177	1	
CALCASIEU	2						1	1			1		2		1		62	4	
CALDWELL																	1		
CAMERON																	1		
CATAHOULA																			
CLAIBORNE																	5		
CONCORDIA				3			1										3		
DESOTO																			
EAST BATON ROUGE		1					1					1			1		111	11	
EAST CARROLL							2				1						5	1	
EAST FELICIANA																	1		
EVANGELINE	2						3						1						
FRANKLIN							1										2		
GRANT																	3		
IBERIA								1			1						4		
IBERVILLE											1						18		
JACKSON													1						
JEFFERSON		1				1	25	5			7	1	4		2		69	4	
JEFFERSON DAVIS	2												1				7		
LAFAYETTE							1	2									37	2	
LAFOURCHE							2	3			3						12		
LASALLE																	1		
LINCOLN																	19		
LIVINGSTON													1				1		
MADISON																	16		
MOREHOUSE																	10		
NATCHITOCHES													1				5		
ORLEANS	1	1				2	10	8			4	2	20		2		676	15	
OUACHITA	39		2				1				2		2				68	2	
PLAQUEMINES											3						1		
POINTE COUPEE								1									2		
RAPIDES	1		1				1	1					1		4		62	7	
RED RIVER																	1		1
RICHLAND	1																3		
SABINE																	5	3	
ST. BERNARD							9						1						
ST. CHARLES																	2		
ST. HELENA																	3		
ST. JAMES						1							1				7		
ST. JOHN																	2		
ST. LANDRY							1						2				2		
ST. MARTIN							2	1			1		1				4		
ST. MARY													1				2	3	
ST. TAMMANY							1										11	2	
TANGIPAHOA											1		4				16	1	
TENSAS																	2		
TERREBONNE						2					8						4		
UNION																	15		
VERMILION											7						5		
VERNON																	32		
WASHINGTON							1				1						9		
WEBSTER											3		2				17		
WEST BATON ROUGE																	8		
WEST CARROLL								1									3		
WEST FELICIANA																	1		
WINN																	1		
OUT OF STATE																	3		

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

From January 1, thru February 28, the following cases were also reported: 1 - Typhus Fever, Endemic.