



EPIDEMIOLOGY BULLETIN

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Sixty Orange Toes

Outbreak of Sandbox-Associated Dermatitis

In May 1985 six children in Virginia Beach, ages two to six, developed orange discoloration of the proximal subungual areas of the fingers and toes after playing in a newly constructed sandbox at the home of an affected child. After noticing the nail discoloration the parents attempted unsuccessfully to remove the stain by vigorous soap and water scrubbing. When pruritic papules later developed on the extensor surfaces of the arms and legs, a physician prescribed antihistamines and topical steroids for what was diagnosed as allergic reaction to an unknown substance.

The State Health Department was notified because of concern that the sand might contain a toxic substance. An epidemiologist confirmed that the only common exposure among these children was recent play in the sandbox. The rash onset was one to two hours after first contact with the sand, and the distribution was limited to skin areas in contact with the sand. No neighborhood child who had not played in the sandbox developed a rash.

A thorough investigation of the home failed to find any potential source of sandbox contamination with toxic chemicals. The sand had been delivered by dump truck by a commercial supplier of construction materials. An inspection of the vehicle and the trucking facility indicated little possibility of contamination during delivery.

Orange colored soil mixed with white sand was found at the quarry where the sand was obtained. Chemical analysis for heavy metals and hy-

drocarbon products on samples from the sandbox and the quarry were negative. High levels of iron were found in the orange colored soil as well as the sandbox, suggesting that the orange discoloration resulted from iron oxide. The drying action of the soil on skin, combined with the attempts to remove the discoloration through re-

peated scrubbing of affected areas, likely caused the pruritic rash that was subsequently observed. The sand in the sandbox was removed and replaced with clean sand; the rashes did not recur.

Submitted by Scott F. Wetterhall, M.D., Assistant State Epidemiologist



Controversies in Tuberculosis

Throughout the years, there have been a number of questions in the area of tuberculosis control for which insufficient data exist to make definitive pronouncements. Practitioners are continually called upon to make clinical and program decisions in these situations.

A conference on tuberculosis was organized by the American College of Chest Physicians to seek "consensus" on controversial issues in the field. A group of 36 experts from across the nation representing academia, public health and private practice met during 1983-84. The results of their deliberations were published in CHEST, Volume 87, Number 2, February 1985 Supplement entitled *National ACCP Consensus Conference on Tuberculosis*. The entire supplement can be purchased from CHEST (312-698-2200) for \$5. The consensus from each committee, with selected bibliography, follows.

Chemotherapy for Tuberculosis

- A nine-month regimen of isoniazid and rifampin, usually supplemented during the initial phase by ethambutol, streptomycin, or pyrazinamide, should be standard therapy for tuberculosis in the United States and Canada.
- Infants, children, and adolescents with tuberculosis should be treated with a nine-month regimen of isoniazid and rifampin, which should be supplemented by an initial phase of ethambutol, streptomycin, or pyrazinamide when drug resistance is suspected.
- When drug resistance is suspected, the initial use of at least three drugs is mandatory.
- A six-month regimen of therapy is acceptable if four drugs (isoniazid, rifampin, pyrazinamide, and streptomycin or ethambutol) are given for two months and followed by an additional four months of isoniazid and rifampin, with all drugs given under close supervision.
- Regimens less than six months in duration are not acceptable due to high rates of failure of treatment and relapse.
- Studies of drug susceptibility on the initial isolate are always desirable but must be obtained when drug resistance is suspected.
- Tuberculosis occurring during pregnancy should be treated with a nine-

month regimen of isoniazid and rifampin supplemented during the initial phase by ethambutol (streptomycin and pyrazinamide should not be used).

- Immunosuppressed patients with tuberculosis should be treated with 9 to 12 months of isoniazid and rifampin, supplemented during the initial phase by ethambutol, streptomycin, or pyrazinamide.
- Extrapulmonary tuberculosis should be treated with the previously stated standard regimens.

Non-drug Issues in Chemotherapy

- Except in cases of potentially life-threatening disease, severe drug reactions, coexisting illnesses requiring hospitalization, and the rare social circumstance in which there is a special threat to the community, tuberculosis should be treated on an ambulatory basis. Contagiousness alone is not an indication for hospitalization.
- Patients who are proven or expected to be noncompliant with programs to treat tuberculosis should receive their medication only under directly administered, supervised conditions.
- Personnel who are not physicians or nurses can and should be permitted to supervise and observe administration of medication.
- Public health officials should be provided with the legal means to confine, at public expense, noncooperative patients with sputum-positive tuberculosis who pose an infectious threat to the general community and to maintain confinement until treatment is complete.
- Tuberculosis control personnel should consider each case of drug-resistant pulmonary tuberculosis as infectious, with appropriate identification and evaluation of the patient's contacts.
- Individuals with extremely drug-resistant sputum-positive tuberculosis which is refractory to chemotherapy are potentially infectious to the general community. If cooperative, these individuals may be confined at home with close supervision by health department personnel. If uncooperative, permanent confinement should be imposed at public expense.

Preventive Chemotherapy

- Contacts to source cases who are

receiving nine months or less of therapy for their disease may be treated with nine months of preventive therapy with isoniazid, provided they have normal chest x-ray films.

- Subjects over the age of 35 years who are receiving preventive therapy with isoniazid should have hepatic function monitored with determinations of levels of transaminase at one, three, six, and nine months; however, tests of hepatic function should not replace careful clinical assessment.
- More vulnerable contacts who presumably have been infected by a source case shedding isoniazid-resistant organisms should receive preventive therapy with rifampin for one year; for less vulnerable contacts, such treatment is an acceptable option.
- Twice-weekly high-dose (900 mg) preventive therapy with isoniazid should be considered for high-risk subjects who are deemed noncompliant.

Bacille Calmette Guerin (BCG) Vaccine

- An effective BCG vaccine may be useful under the following circumstances: individuals, particularly infants, who are skin-test negative and are in a household with repeated exposure to persistently untreated or ineffectively treated patients with sputum-positive tuberculosis; groups in which an excessive rate of new infections can be demonstrated and the usual surveillance and treatment have failed or are not feasible (e.g., in groups without a source of regular health care).
- In the absence of universally agreed upon criteria, we leave the definitions of "excessive rates of new infections," "surveillance and treatment failures," and "feasibility" to those responsible for the implementation of a vaccination program.

This statement applies specifically to the resource-rich countries.

Public Health Issues

- Tuberculosis surveillance efforts directed towards individuals at high risk of infection or disease should be continued. These high-risk groups include (1) newly arrived immigrants, refugees, foreign students, temporary foreign workers, and migrant workers; (2) new residents of nursing homes; (3) employees of nursing homes and hospitals; and (4) new inmates of prisons.
- Routine programs of tuberculosis

surveillance directed towards the general community should be discontinued. Such programs include (1) periodic tuberculin retesting throughout adult life; (2) periodic tuberculin retesting in children, except in the case of high-risk subsegments of the general population, and (3) chest roentgenographic screening programs.

- Repeated or routine chest roentgenographic examinations of patients with tuberculosis who have completed treatment or asymptomatic tuberculin reactors should not be performed. Clinical symptoms are an indication for a repeat chest x-ray film.
- The Mantoux tuberculin test is the only acceptable method for detecting tuberculous infection.
- Field service representatives should be permitted to perform tuberculin skin tests, deliver prescribed medications, and supervise directly observed ingestion of drugs by patients.

Disease Due to *M. avium-intracellulare*

- For the usual, "moderately severe" case of pulmonary disease, initial therapy should consist of isoniazid, rifampin, and ethambutol for 18 to 24 months with streptomycin during the initial two to three months.
- For patients (immunologically intact) with a solitary pulmonary nodule due to *M. avium-intracellulare*, chemotherapy need not be given after resectional surgery.
- For patients with rapidly progressive, highly symptomatic pulmonary disease, more aggressive initial therapy is indicated employing regimens of five to six drugs, including agents such as ethionamide, cycloserine, or kanamycin (as well as the agents listed previously).
- For patients with life-threatening disseminated disease due to *M. avium-intracellulare*, initial chemotherapy with five or six drugs is indicated. In this setting, ansamycin (LM 427) and clofazimine should be included in the regimen.
- For patients with localized pulmonary disease and adequate cardiorespiratory reserve, resectional surgery combined with chemotherapy may offer a better outcome than chemotherapy alone.

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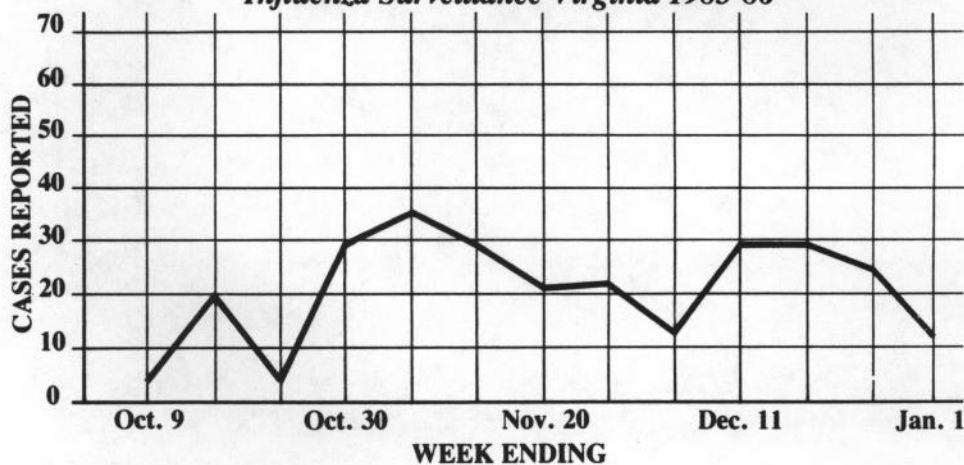
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Influenza Surveillance Virginia 1985-86



Cases of influenza-like illness reported weekly by 33 sentinel physicians in Virginia continued to be at baseline level through the month of December. No laboratory confirmed cases have yet been reported. Nationally, an outbreak in Alaska due to type A (H3N2) has been reported. Isolated cases in other states have confirmed the circulation of type A (H1N1) and type B viruses. No increase in deaths due to pneumonia or influenza was reported in December.

Cases of selected notifiable diseases, Virginia, for the period December 1 through December 31, 1985

Disease	State					Regions				
	This Month	Last Month	Total to Date		Mean 5 Year To Date	This Month				
			1985	1984		N.W.	N.	S.W.	C.	E.
Measles	0	0	27	5	80	0	0	0	0	0
Mumps	2	4	49	20	64	0	2	0	0	0
Pertussis	1	3	21	19	24	1	0	0	0	0
Rubella	0	0	2	1	13	0	0	0	0	0
Meningitis—Aseptic	38	67	417	264	265	13	3	5	12	5
*Bacterial	22	26	256	230	218	4	5	6	2	5
Hepatitis A (Infectious)	10	24	171	124	190	0	0	7	1	2
B (Serum)	40	60	558	522	523	3	10	5	13	9
Non-A, Non-B	12	15	101	99	69	3	2	2	1	4
Salmonellosis	52	147	1542	1255	1413	3	9	7	9	24
Shigellosis	2	14	88	201	411	0	0	0	1	1
Campylobacter Infections	30	77	744	664	393	4	5	3	6	12
Tuberculosis	25	72	488	473	—	—	—	—	—	—
Syphilis (Primary & Secondary)	16	32	299	415	582	0	4	2	1	9
Gonorrhea	1368	1756	19,234	20,171	21,472	—	—	—	—	—
Rocky Mountain Spotted Fever	0	0	26	47	77	0	0	0	0	0
Rabies in Animals	10	10	179	208	356	8	2	0	0	0
Meningococcal Infections	8	3	58	66	78	2	2	0	3	1
Influenza	4	22	1002	1129	1721	0	0	4	0	0
Toxic Shock Syndrome	0	0	1	7	8	0	0	0	0	0
Reyes Syndrome	0	0	2	6	10	0	0	0	0	0
Legionellosis	3	2	22	33	25	2	0	1	0	0
Kawasaki's Disease	0	0	26	22	22	0	0	0	0	0
Other: Acquired Immunodeficiency Syndrome	8	17	105	39	—	0	2	0	4	2

Counties Reporting Animal Rabies: Fauquier 1 raccoon; Fluvanna 1 skunk; Greene 1 raccoon; Rockingham 1 raccoon, 2 skunks; Shenandoah 1 skunk; Stafford 1 raccoon; Fairfax 2 raccoons.

Occupational Illnesses: Silicosis 21; Carpal tunnel syndrome 16; Pneumoconioses 16; Asbestosis 6; Dermatitis 2; Hearing loss 2.

*other than meningococcal

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