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Cat Rabies

Four rabid cats were reported in Virginia during the first six weeks of 1987 resulting in postexposure treatment for approximately 15 people. This compares with three rabid cats for the entire 12 months of 1986 (Table 1). Confirmed cases of wildlife rabies have also increased dramatically this year: 48 rabid raccoons, foxes, and skunks were reported during the first two months of 1987 versus only 12 for the same time period last year. The epidemic curve for feline rabies usually parallels that for wildlife rabies (Figure 1), see page 2.

Of the four rabid cats diagnosed this year, three were pets and one was a stray. Two of them had been treated for leg injuries between 2 and 6 weeks prior to the onset of rabies. One was treated for a typical cat bite abscess and the other for an injury resembling damage caused by a leg hold trap. A retrospective study of 31 rabid cats diagnosed in Maryland between 1983 and 1986 revealed that 11 (35%) had had a documented wound within six months (most commonly within 2 to 6 weeks) of the onset of rabies.[1] Of the 11 cats with wounds, six (55%) were reported as crushing leg wounds similar to those caused by leg hold traps. It is now felt that those injuries were probably caused by attacks from rabid animals.

The rabid cat from Virginia with the severe leg wound had received an initial rabies vaccine seven months prior to the presumed exposure. The vaccine was USDA licensed, approved for use in that species, and apparently properly administered. Although rabies vaccines traditionally do an excellent job of protecting pets, no vaccine is 100% effective especially in the face of an overwhelming innoculum or if the animal is immunodeficient.

Given the information that is presently available regarding cat rabies cases associated with the mid-Atlantic raccoon rabies epizootic, it might be prudent to administer a booster dose of rabies vaccine to a cat that receives a bite wound from an unknown animal, particularly in a rabies enzootic or epizootic area. Additionally, pet owners should be warned of the potential for rabies exposure when their animal receives a wound from an unknown source.

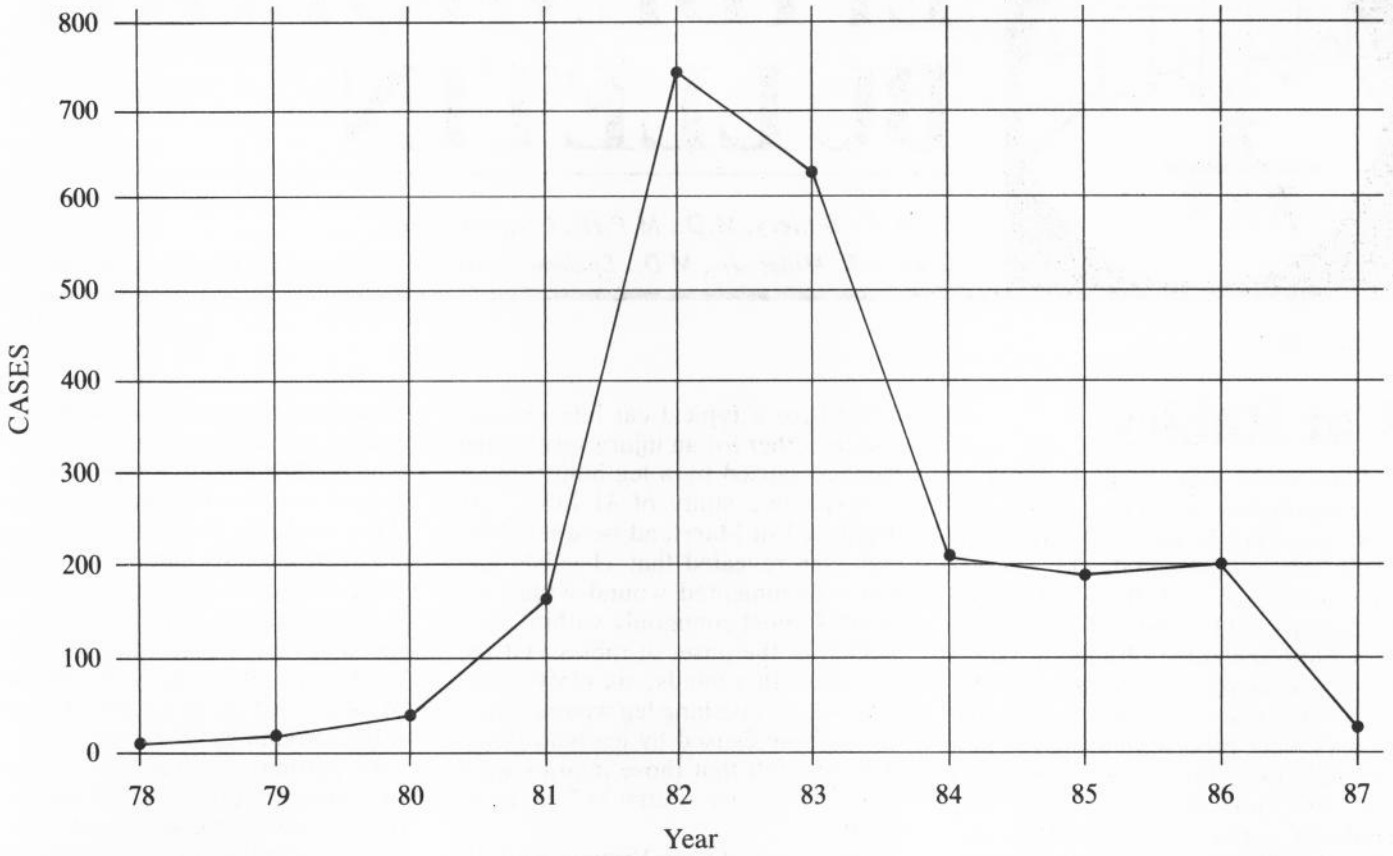
References

1. Grigor, Jack, Maryland Department of Health and Mental Hygiene, personal communication.

Table 1. Reported Cases of Rabies in Cats and Dogs, Virginia, January 1980 through February 1987

County/City	1980	1981	1982	1983	1984	1985	1986	1987
Rockingham								
Fauquier								
Loudoun								
Culpeper								
Fairfax								
Frederick								
Prince William								
Scott								
Augusta								
Fredericksburg								
Russell								
Bath								
Botetourt								
Hanover								
Rockbridge								
TOTALS	1 cat	3 cats	10 cats, 2 dogs	6 cats	3 cats	3 cats, 1 dog	3 cats	4 cats

Animal Rabies Cases Reported, Virginia
January 1, 1978 thru February 7, 1987



Cat Rabies Cases Reported, Virginia
January 1, 1978 thru February 7, 1987

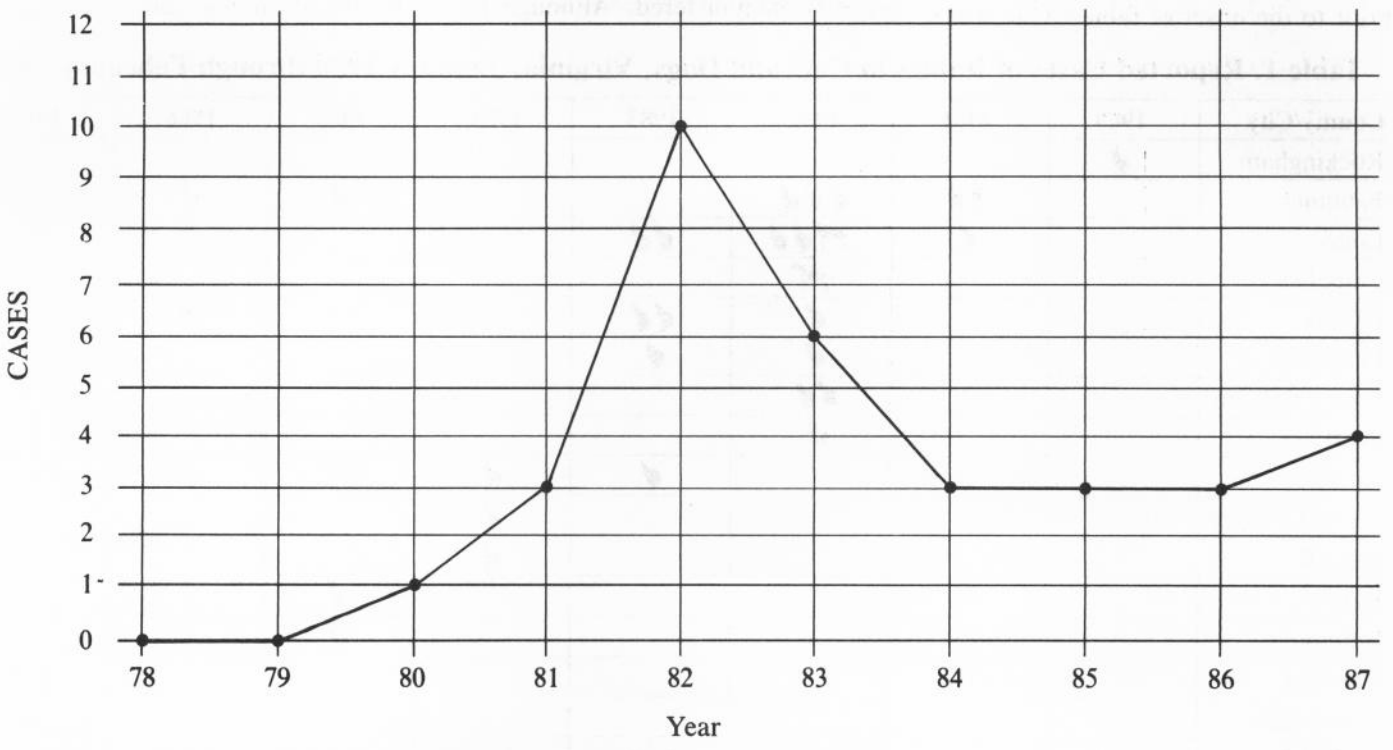


Figure 1.

High Dose Vitamin A and Pregnancy

As part of an epidemiologic study of the risk for birth defects associated with maternal use of 13-cis retinoic acid (Accutane®) during pregnancy, the Reproductive Health Section of the Bureau of Environmental Epidemiology and Occupational Health in the New York State Department of Health interviewed 492 women who had delivered live-born infants without birth defects during the period from April 1983 through February 1984. The interviews, which were conducted from August 1985 through August 1986, included questions concerning maternal use of drugs and vitamin supplements just before and during pregnancy. Dietary habits were not ascertained.

Of this group, 90.7% (446/492) took some prescription or over-the-counter medication. These medications represented 48 drug classes. A supplement containing vitamin A was taken by 81.1% (399/492). Of all the women interviewed, 0.6% (3/492) had taken supplements containing ≥ 25,000 international units (IU) of vitamin A daily, and 2.6% (13/492) had taken supplements containing 15,000-24,999 IU of vitamin A daily.

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Editorial Note: These observations show that some pregnant women take supplements containing high doses of vitamin A. Because of the potential teratogenicity of excessive vitamin A when taken during early pregnancy (the embryonic period or organogenesis), this finding raises a public health concern. Retinol, the form of vitamin A usually found in supplements, is a member of a group of biochemically related compounds called retinoids. Evidence about the teratogenicity of retinoids comes from three sources: 1) animal experiments, 2) case reports of defects among children born to women who used high-dose vitamin A supplements during early pregnancy, and 3) prospective studies of women who took a synthetic retinoid, 13-cis retinoic acid, during early pregnancy *(1, 2)*.

The pattern of malformations associated with 13-cis retinoic acid, which is prescribed for treatment of chronic cystic acne, parallels those found in animals exposed *in utero* to high doses of retinoic acid. A relative risk of 25.6 (95% confidence interval = 11.4-57.5) was estimated for the association between 13-cis retinoic and selected defects (external ear malformations, cleft palate, micrognathia, conotruncal heart defects, ventricular septal defects, aortic arch malformations, and brain malformations) in infants who were exposed during early pregnancy *(1)*. Defects have also been observed among children born to women who took etretinate (Tigasan®), a retinoid prescribed for treatment of psoriasis, during pregnancy *(2)*. Although the range of malformations potentially associated with maternal use of high-dose vitamin A supplements has not been well defined, defects observed among children born to women who took ≥ 25,000 IU of vitamin A per day during pregnancy include craniofacial, central nervous system, cardiac, urinary, and vertebral and other skeletal malformations *(2)*.

13-cis retinoic acid is the only retinoid for which the teratogenic risk has been quantified in an epidemiologic study. The risk, if any, that may be associated with use of high-dose vitamin A during human pregnancy is not known.

The National Research Council's Committee on Dietary Allowances advocates a Recommended Dietary Allowance (RDA) of 1,000 retinol equivalents (RE) per day of vitamin A during pregnancy. This is equivalent to 3,300 IU of vitamin A obtained from a supplement as retinol or 5,000 IU of vitamin A obtained from the typical American diet in the forms of retinol and its metabolic precursors, beta-carotene and related compounds *(3)*. The Committee on Dietary Allowances based its RDAs on the amounts that are adequate for maintenance and good nutrition in healthy persons. The Food and Drug Administration's (FDA) U.S. Recommended Daily Allowance (U.S. RDA) for vitamin A is 8,000 IU per day during pregnancy *(4)*. This recommendation was developed as a standard for food labeling and composition regulations. In the United States, nearly all multivitamin supplements that are labeled for prenatal use contain no more than the U.S. RDA for vitamin A during pregnancy. However, multivitamin supplements intended for general adult use may contain much more than 8,000 IU of vitamin A.

Organogenesis often occurs before a woman is aware that she is pregnant. Because of this, women who are at risk for pregnancy should avoid taking supplements containing more than 8,000 IU of vitamin A per day (the U.S. RDA for pregnant women). Women who have questions about the use of vitamin supplements should consult their physicians.

To learn more about the possible risks of using high-dose vitamin A during pregnancy, investigators at FDA are seeking to identify women who are currently pregnant and have taken high-dose vitamin A supplements just before or during early pregnancy. Health care workers are urged to report such women to the Epidemiological Operations Branch, Office of Regulatory Affairs, FDA, by calling (301)443-4667.

References

1. Lammer EJ, Chen DT, Hoar RM, et al. Retinoic acid embryopathy. New Engl J Med 1985; 313:837-41.
2. Rosa FW, Wilk AL, Kelsey FO. Teratogen update: vitamin A congeners. Teratology, 1986; 33:355-64.
3. Committee on Dietary Allowances, Food and Nutrition Board, National Research Council, National Academy of Sciences, Recommended dietary allowances. 9th ed. Washington, DC: National Academy Press, 1980:58-9.
4. Food and Drug Administration. Vitamin and mineral products: labeling and composition regulations. Federal Register 1976; 41(203):46156-76.

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Cases of selected notifiable diseases, Virginia, for the period March 1, through March 31, 1987

Disease	State					Regions				
	This Month	Last Month	Total to Date 1986	Total to Date 1987	Mean 5 Year To Date	This Month N.W.	This Month N.	This Month S.W.	This Month C.	This Month E.
Measles	0	0	0	0	4	0	0	0	0	0
Mumps	3	0	9	3	10	0	1	1	0	1
Pertussis	10	7	9	30	8	2	2	1	0	5
Rubella	0	0	0	0	1	0	0	0	0	0
Meningitis—Aseptic	12	15	37	38	35	1	4	2	3	2
*Bacterial	12	18	78	43	76	1	2	0	5	4
Hepatitis A (Infectious)	28	25	38	78	41	1	5	16	3	3
B (Serum)	26	37	113	105	129	4	4	4	7	7
Non-A, Non-B	5	1	18	11	23	0	1	1	0	3
Salmonellosis	67	78	220	218	228	10	11	9	25	12
Shigellosis	8	7	13	30	41	2	4	0	2	0
Campylobacter Infections	29	28	76	87	79	5	9	4	3	8
Tuberculosis	24	36	79	83	94	7	0	1	14	2
Syphilis (Primary & Secondary)	21	18	127	62	130	0	3	3	10	5
Gonorrhea	1230	1169	4433	3961	4710	—	—	—	—	—
Rocky Mountain Spotted Fever	0	0	1	0	0	0	0	0	0	0
Rabies in Animals	27	40	50	85	89	7	7	0	11	2
Meningococcal Infections	7	10	35	27	23	1	0	0	0	6
Influenza	27	265	3667	1117	1214	1	0	0	0	26
Toxic Shock Syndrome	0	0	4	0	1	0	0	0	0	0
Reyes Syndrome	0	0	0	0	1	0	0	0	0	0
Legionellosis	0	1	3	2	4	0	0	0	0	0
Kawasaki's Disease	2	3	8	5	8	1	0	0	1	0
Acquired Immunodeficiency Syndrome	29	7	54	55	—	1	18	2	3	5

Counties Reporting Animal Rabies: Albemarle 1 raccoon; Clarke 1 raccoon; Fairfax 1 bat, 2 raccoons; Goochland 3 raccoons; Hanover 6 raccoons; Henrico 1 groundhog; King William 2 raccoons; Loudoun 4 raccoons; New Kent 1 raccoon; Page 2 skunks; Rockingham 1 raccoon; Shenandoah 2 raccoons.

Occupational Illnesses: Pneumoconioses 39; Asbestosis 23; Carpal tunnel syndrome 13; Hearing loss 8; Poisoning, Toluene and Xylene 3; Poisoning, other 3; Silicosis 2.

*other than meningococcal

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