Correspondence

Retraction: Absence of Human T-Cell Lymphotropic Virus Type I in Cutaneous T-Cell Lymphoma

To the Editor: Most of the data in our letter to the editor on the absence of human T-cell lymphotropic virus type I in cutaneous T-cell lymphoma (Jan. 23, 1997, issue)[1] cannot be verified. The letter is therefore invalid, and we wish to retract it. We apologize to the *Journal* and its readers for reporting these results.

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1. Kikuchi A, Nishikawa T, Yamaguchi K. Absence of human T-cell lymphotropic virus type I in cutaneous T-cell lymphoma. N Engl J Med 1997; 336:296-7.

Prophylactic Mastectomy in Women with a High Risk of Breast Cancer

To the Editor: When Hartmann and colleagues (Jan. 14 issue)[1] analyzed the outcomes of prophylactic mastectomies, they expressed the results as a relative risk reduction. They reported that prophylactic mastectomy reduces the incidence of breast cancer by about 90 percent among both moderate-risk and high-risk women. The relative risk reduction allows the reader to judge the magnitude of the association, but it does not express the clinical implications of the findings as clearly as the number of patients who would need to be treated to prevent a bad outcome (referred to as the number needed to treat).[2] This distinction can make a difference in care, because it has been shown that results expressed as the relative risk reduction and those expressed as the number needed to treat have different influences on decisions about treatment.[3,4]

The number needed to treat makes clear the proportion of people who would be treated unnecessarily (Table 1)

TABLE 1. RELATIVE RISK REDUCTION AND NUMBER NEEDED TO TREAT FOR THE OUTCOMES OF BREAST CANCER AND DEATH IN HIGH-RISK AND MODERATE-RISK WOMEN WHO UNDERWENT PROPHYLACTIC MASTECTOMY.*

RISK AND OUTCOME	OUTCOME RATE WITHOUT MASTECTOMY	OUTCOME RATE WITH MASTECTOMY	ABSOLUTE RISK REDUCTION	RELATIVE RISK REDUCTION	NUMBER NEEDED TO TREAT
High					
Breast cancer	0.175	0.014	0.161	0.920	6
Death	0.049	0.009	0.040	0.816	25
Moderate					
Breast cancer	0.088	0.009	0.079	0.898	13
Death	0.024	0.000	0.024	1.000	42

*The outcome rate is the proportion of women with the indicated outcome, on the basis of the data reported by Hartmann et al. The absolute risk reduction is calculated as the outcome rate without treatment minus the outcome rate with treatment, the relative risk reduction is calculated as the absolute risk reduction divided by the outcome rate without treatment, and the number needed to treat is calculated as 1 divided by the absolute risk reduction.

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and highlights the differences between the moderate-risk and high-risk groups. Thus, it would be necessary to treat 6 women at high risk to prevent one case of breast cancer, but it would be necessary to treat 13 women at moderate risk to prevent one case. To prevent one death from breast cancer, it would be necessary to treat more women at moderate risk (42) than women at high risk (25).

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1. Hartmann LC, Schaid DJ, Woods JE, et al. Efficacy of bilateral prophylactic mastectomy in women with a family history of breast cancer. N Engl J Med 1999;340:77-84.
2. Cook RJ, Sackett DL. The number needed to treat: a clinically useful measure of treatment effect. BMJ 1995;310:452-4. [Erratum, BMJ 1995; 310:1056.]
3. Bucher HC, Weinbacher M, Gyr K. Influence of method of reporting study results on decision of physicians to prescribe drugs to lower cholesterol concentration. BMJ 1994;309:761-4.
4. Forrow L, Taylor WC, Arnold RM. Absolutely relative: how research results are summarized can affect treatment decisions. Am J Med 1992;92: 121-4.

To the Editor: In their informative analysis, Hartmann et al. note a dramatic reduction in cases of breast cancer among women who underwent prophylactic mastectomy. Most of the women, however, did not benefit from prophylactic mastectomy in terms of mortality associated with breast cancer. Among the 214 high-risk women, the estimated number of deaths from breast cancer that were averted ranged from 28.6 to 8.5. The higher estimate means that prophylactic mastectomy prevented one death from breast cancer for every 7.5 women who underwent the procedure and made no difference in terms of mortality associated with breast cancer for 87 percent of these women. The lower estimate means that prophylactic mastectomy prevented one death from breast cancer for every 25 women and made no difference in mortality for 96 percent. Similarly, among the 425 moderate-risk women, 10.4 deaths from breast cancer were averted; one death from breast cancer was prevented for every 41 women, but for 98 percent of these women, there was no benefit in terms of reduced mortality.

Providing data in relative terms (e.g., a 90 percent reduction in deaths from breast cancer) and in absolute terms (e.g., 1 in 25 women benefit) will help women who are contemplating prophylactic mastectomy make more informed decisions. Despite the marked reduction in the risk of breast cancer, we need to make it clear that prophylactic mastectomy would not save the vast majority of women from death due to breast cancer, because most women would not die of breast cancer even if they kept their breasts, and a few would die of breast cancer even if they had their breasts removed.

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To the Editor: The landmark report by Hartmann and colleagues provides sound evidence that bilateral prophylactic mastectomy can reduce the risk of breast cancer in women with a strong family history of the disease. For many women who consider undergoing this procedure, financial factors are a pivotal issue. We evaluated insurance coverage for prophylactic mastectomy in a university-based breast-care center in northern California.

TABLE 1. INSURANCE COVERAGE FOR BILATERAL PROPHYLACTIC MASTECTOMY, WITH OR WITHOUT RECONSTRUCTION, AMONG 100 PATIENTS.

POLICY ON COVERAGE	STRONG FAMILY HISTORY	*BRCA* MUTATION
	% of patients	
No policy (case referred for review by medical director)	38	91
Noncoverage	17	0
Coverage	45	9

We contacted the insurance carriers for our most recent 100 patients to determine the current policy on coverage for prophylactic bilateral mastectomy, with or without reconstruction, if the patient had one or more first-degree relatives with breast cancer or a known mutation in the *BRCA* gene (Table 1). Our data show that the insurance carriers for more than half our patients may not cover bilateral prophylactic mastectomy. The lack of a universal policy for insurance coverage has made health care decisions like this one subject to arbitrary criteria.[1]

Recent federal legislation[2] requires insurance companies to cover the cost of breast reconstruction for any woman who undergoes mastectomy, but it does not include a requirement to cover the cost of prophylactic mastectomy. As genetic testing becomes widespread, our health care system has a responsibility to provide all appropriate candidates with access to prophylactic mastectomy.

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1. Rosenbaum S, Frankford DM, Moore B, Borzi P. Who should determine when health care is medically necessary? N Engl J Med 1999;340: 229-32.
2. House of Representatives, 105th Congress. Omnibus appropriations bill for fiscal year 1999. Title IX — women's health and cancer rights. Conference report to accompany H.R. 4328, 452-54, 1998.

To the Editor: Hartmann et al. report a 90 percent reduction in the risk of breast cancer among 639 women with a family history of breast cancer who underwent bilateral prophylactic mastectomy at the Mayo Clinic. In another study, women with breast hypertrophy who had undergone breast-reduction surgery were reported to have a 39 to 50 percent reduction in the risk of breast cancer; however, the protective effect was apparent only among

women over the age of 40 years at the time of surgery.[1,2] It would be interesting to know whether the protective effect noted by Hartmann et al. for the overall group of women in their study was found among those who were 40 years old or younger when the surgery was performed.

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1. Boice JD Jr, Friis S, McLaughlin JK, et al. Cancer following breast reduction surgery in Denmark. Cancer Causes Control 1997;8:253-8.
2. Baasch M, Nielsen SF, Engholm G, Lund K. Breast cancer incidence subsequent to surgical reduction of the female breast. Br J Cancer 1996; 73:961-3.

The authors reply:

To the Editor: Hamm et al. and Ernster raise two key questions. First, what is the appropriate end point in studies of cancer prevention: incidence, mortality, or both? Second, what is the best way to express an effect on these end points?

For trials of cancer treatment, mortality is an essential end point. For prevention studies, we believe incidence is a valid end point. For this disease, a significant reduction in incidence should subsequently translate into a reduction in mortality.

Measurements of relative risk are currently the standard for reporting the results of trials of screening, treatment, and prevention. The number needed to treat has some advantages but important limitations as well.[1] This number is not static but changes with the duration of follow-up, if the intervention has a durable effect. Table 1 shows the number needed to treat in our high-risk group at 5 years, 10 years, and 14 years (the current duration of follow-up).

The median age of the women in our cohort at the time of prophylactic surgery was 42 years. With 14 years of follow-up, their median age is now 56 years. If the protective effect of the procedure is durable, the number needed to treat will continue to decline as the women's remaining life expectancy declines. Expressing the results as the number needed to treat — 6 to prevent one case of breast cancer or 25 to prevent one death from breast cancer — conveys an effect over a period of 14 years, not an entire lifetime.

In our retrospective study, we included all women with any family history of breast cancer who had undergone bilateral prophylactic mastectomy between 1960 and 1993. Many of the women in our moderate-risk group would not now be considered to have a markedly elevated risk of breast cancer. Today, as we emphasized in our article, prophylactic mastectomy would generally be considered only for women with a family history that put them at high risk for breast cancer — namely, a history suggestive of an autosomal dominant predisposition to the disease.

With regard to Boice and Olsen's question about the degree of protection in the younger women, all seven of the breast cancers that occurred after prophylactic mastectomy were in women who were over the age of 40 years at the time of surgery.

TABLE 1. NUMBER NEEDED TO TREAT ACCORDING TO YEARS OF FOLLOW-UP.

OUTCOME	NUMBER NEEDED TO TREAT		
	5 YR	10 YR	14 YR
Diagnosis of breast cancer	13.5	9.0	6.2
Death from breast cancer	136.9	44.8	25.0

We appreciate the comments of Kuerer et al. about inconsistencies in insurance coverage for prophylactic mastectomy. We have only anecdotal information to add to the data they have provided. It has been our experience that coverage for this procedure is by no means ensured and consistent.

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1. Rajkumar SV, Sampathkumar P, Gustafson AB. Number needed to treat is a simple measure of treatment efficacy for clinicians. J Gen Intern Med 1996;11:357-9.

The One-in-Nine Risk of Breast Cancer

To the Editor: Phillips et al. (Jan. 14 issue)[1] are to be commended for their lucid deconstruction of the "one in nine" statistic, a figure seized on by the lay and medical media and one that has aroused concern that we are facing an unprecedented increase in breast cancer since it was first reported. However, missing from their discussion is any acknowledgment that life-table analysis of risk, such as that presented in Table 1 and Figure 1 of their article, applies only to the population from which the data were collected.

To the extent that breast cancer and cardiovascular disease are not genetically mediated, there is reason to suspect that the cohort of North American women currently in their 40s may not conform to the incidence and mortality profiles of the cohort currently in their 70s. For example, even if the possible effect of improved therapies on future mortality rates is not considered, these cohorts can be equivalent only if there has been no shift toward healthier lifestyles, if patterns of childbearing (e.g., maternal age at birth of a first child) have not changed, and if the rates of exposure to mammary carcinogens have remained stable over the past 40 years. None of these underlying assumptions seem sustainable. Thus, as several of my well-informed patients have pointed out, it is misleading to tell a group of 970 perimenopausal women that, on average, 105 of them will die of cardiovascular disease between the ages of 60 and 70 and 18 of them will die of breast cancer at that age. In truth, nobody knows what the figures will be.

In my experience, the typical 45-year-old woman whom one counsels about the risks of breast cancer and atherosclerosis has no familial risk factors and is already leading an

active, semivegetarian lifestyle designed to promote cardiovascular fitness. Since life-table data, though imperfect as a predictive tool, are the best we have to go on, it would be helpful to see the numbers for the subgroup consisting of physically active women with good cholesterol values and no history of smoking. Perhaps the authors of this useful and widely quoted discussion can provide us with such statistics.

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1. Phillips K-A, Glendon G, Knight JA. Putting the risk of breast cancer in perspective. N Engl J Med 1999;340:141-4.

The authors reply:

To the Editor: Dr. Harrell is correct in pointing out that the statistics we presented are derived from a snapshot of the general population, which varies with respect to exposure to risk factors and protective factors (both known and unknown) for various diseases. It was not our intent to imply that a life table based on data from the general population can be used to determine an individual woman's exact risk of breast cancer or of death from breast cancer. In fact, given our imperfect understanding of the cause of breast cancer, it is currently not possible to provide a completely accurate estimate of an individual woman's risk, although attempts have been made.[1,2]

Analysis according to birth cohort is a useful way to assess variations in risk that may occur because of changes in exposure to risk factors over time. In keeping with Harrell's comments, it is interesting that Tarone et al.,[3] contrary to their expectations based on trends in reproductive factors, found that the risk of death from breast cancer decreased among women born after 1950.

When educating a population of women, it is appropriate to use estimates of the risk of breast cancer that are derived from that population. Of course, we agree that when counseling an individual woman, one should supplement these general estimates of risk with a discussion of the specific risk factors relevant to that person.

We included the life table in order to convey general concepts about the age distribution and relative magnitude of the risk of breast cancer as compared with the risk of cardiovascular disease. Any estimate of the risk associated with a complex, multifactorial disease has inherent limitations. This fact only serves to highlight our concern about the extensive use of the one-in-nine statistic without any elaboration. This is the only information on the risk of breast cancer that many women receive, and we believe that it is inadequate and potentially misleading.

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1. Gail MH, Brinton LA, Byar DP, et al. Projecting individualized probabilities of developing breast cancer for white females who are being examined annually. J Natl Cancer Inst 1989;81:1879-86.
2. Claus EB, Risch N, Thompson WD. Autosomal dominant inheritance of early-onset breast cancer: implications for risk prediction. Cancer 1994; 73:643-51.
3. Tarone RE, Chu KC, Gaudette LA. Birth cohort and calendar period trends in breast cancer mortality in the United States and Canada. J Natl Cancer Inst 1997;89:251-6.

Hypovitaminosis D in a Sunny Country

To the Editor: Some normal subjects and a substantial proportion of patients with various illnesses in the United States and northern Europe have vitamin D insufficiency,[1-4] but information from countries located in more southern latitudes is scarce.

We measured serum 25-hydroxyvitamin D and parathyroid hormone during the summer (August through October) in 465 women from the village of Nabi-Shit (latitude, 33.5 degrees north) in central Lebanon. We studied a random sample of women, most of whom were of reproductive age, who were eating a regular Middle Eastern diet, including dairy products. The dress code requires the head, arms, and legs to be covered. None of the women were taking medication known to affect the metabolism of vitamin D. Serum 25-hydroxyvitamin D was measured by a competitive protein-binding assay with use of the Diasoren Incstar kit (Incstar, Stillwater, Minn.), and serum parathyroid hormone was measured with use of the ELSA-PTH immunoradiometric assay (Cis Bio International, Gif-sur-Yvette, France). The mean (±SD) serum concentration of 25-hydroxyvitamin D was 11±14 ng per milliliter (28±35 nmol per liter). Sixty percent of the women had concentrations of less than 10 ng per milliliter (25 nmol per liter), 35 percent had concentrations between 10 and 20 ng per milliliter (25 and 50 nmol per liter), and 5 percent had concentrations greater than 20 ng per milliliter (50 nmol per liter). There was a trend toward a decrease in the mean concentration of 25-hydroxyvitamin D with age (Table 1). The mean serum

TABLE 1. MEAN SERUM CONCENTRATIONS OF 25-HYDROXYVITAMIN D AND PARATHYROID HORMONE IN 465 WOMEN FROM THE VILLAGE OF NABI-SHIT IN THE BEKAA VALLEY, LEBANON.*

AGE GROUP	NO. OF WOMEN	MEAN AGE	BODY-MASS INDEX†	SERUM 25(OH)D	SERUM PTH
		yr		ng/ml	pg/ml
15–19	8	18±1	22.7±3.1	8±4	28±13
20–29	132	25±3	25.4±4.1	13±25	30±20
30–39	170	34±3	27.2±4.7	11±6	30±15
40–49	95	44±3	30.4±4.6	10±5	29±13
50–59	60	54±3	32.6±5.5	9±7	39±61

*25(OH)D denotes 25-hydroxyvitamin D, and PTH parathyroid hormone. The normal range for 25-hydroxyvitamin D is 16 to 36 ng per milliliter (40 to 90 nmol per liter), and for parathyroid hormone it is 8 to 76 pg per milliliter. To convert values for 25-hydroxyvitamin D to nanomoles per liter, multiply by 2.5.

†The body-mass index is the weight in kilograms divided by the square of the height in meters.

concentration of parathyroid hormone was 31±27 pg per milliliter. There was an inverse relation between serum concentrations of parathyroid hormone and 25-hydroxyvitamin D (data not shown). When serum 25-hydroxyvitamin D values were categorized as <10, 10 to 20, or >20 ng per milliliter, the corresponding mean serum parathyroid hormone values were 30±12, 26±11, and 23±11 pg per milliliter, respectively, thus changing in an inverse pattern, as expected.

Our data demonstrate that a substantial number of healthy young women in central Lebanon had vitamin D insufficiency in the summer. Despite the lack of symptoms, it is likely that hypovitaminosis D has deleterious effects on calcium metabolism and ultimately the skeleton. Our findings may be explained by the lack of a governmental mandate that food be supplemented with vitamin D and by the cultural habits of the women. Hypovitaminosis D is being increasingly recognized as a common yet easily modifiable risk factor for osteoporosis.[3,5] Our results underscore that it can also be endemic even in young women in sunny countries.

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1. Thomas MK, Lloyd-Jones DM, Thadhani RI, et al. Hypovitaminosis D in medical inpatients. N Engl J Med 1998;338:777-83.
2. Malabanan A, Veronikis IE, Holick MF. Redefining vitamin D insufficiency. Lancet 1998;351:805-6.
3. Looker AC, Gunter EW. Hypovitaminosis D in medical inpatients. N Engl J Med 1998;339:344-5.
4. McKenna MJ. Differences in vitamin D status between countries in young adults and the elderly. Am J Med 1992;93:69-77.
5. Utiger RD. The need for more vitamin D. N Engl J Med 1998;338:828-9.

Infected Dog and Cat Bites

To the Editor: In their analysis of infected dog and cat bites, Talan et al. (Jan. 14 issue)[1] found that pasteurella species could be isolated from 50 percent of infected dog-bite wounds. In the accompanying editorial, Fleisher[2] mentioned the importance of careful exploration of apparently trivial animal-bite wounds in order to rule out damage to underlying structures or penetration of body cavities.

We describe a 21-month-old boy who had been bitten by a dog on the left side of his head one month previously. He had been examined in a clinic and was discharged with no medication after the wound was cleaned. Three weeks later the child became unwell, with poor appetite, regression, and inability to move the right side of his body. On admission, he was drowsy, with a temperature of 39.5°C and no neck stiffness. He had a puncture mark on the left side of the scalp, with surrounding swelling of soft tissue. Examination confirmed right hemiplegia. A computed tomographic scan of the head (Fig. 1) showed irregularity of the left coronal suture near the vertex, with an underlying large, ring-enhancing lesion in the left frontoparietal area. Surrounding edema and mass effect had caused obliteration of the left lateral ventricle and dilatation of the right lateral ventricle.

The cerebral abscess was treated surgically with burr-hole drainage of 100 ml of pus. *Pasteurella multocida,* which is susceptible to penicillin, was isolated from the pus. Penicillin and chloramphenicol were administered orally for six weeks postoperatively. One month later, the child had minor residual weakness; he was able to walk and beginning to talk. Follow-up at six weeks showed continued improvement.

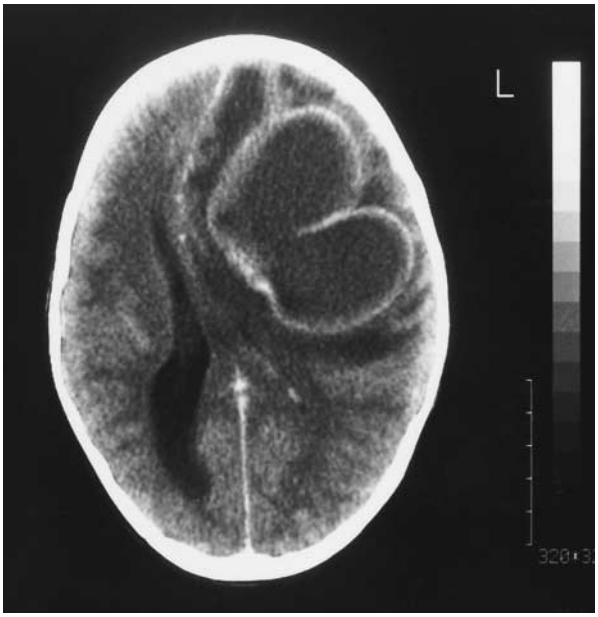

Figure 1. Contrast-Enhanced Computed Tomographic Scan of the Head of a Child, Showing a Large, Ring-Enhancing Lesion in the Left Frontoparietal Area with Edema and Mass Effect.

We know of only one previous report[3] of a brain abscess due to *P. multocida* after severe, penetrating dog-bite injuries to the head of a child. In the case of our patient, the dog bite appeared initially to be minor, with only a single puncture wound, but ultimately resulted in cerebral abscess.

This case report highlights the fact that seemingly trivial animal bites can result in severe complications and that *P. multocida* is an important cause of infection in dog bites. The use of prophylactic antibiotics has been recommended for all bites to the head and neck, and such an approach might have averted the devastating consequences in our patient. Dog bites can be regarded as trivial only in retrospect.[4]

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1. Talan DA, Citron DM, Abrahamian FM, Moran GJ, Goldstein EJC. Bacteriologic analysis of infected dog and cat bites. N Engl J Med 1999;340:85-92.
2. Fleisher GR. The management of bite wounds. N Engl J Med 1999;340:138-40.
3. Klein DM, Cohen ME. *Pasteurella multocida* brain abscess following perforating cranial dog bite. J Pediatr 1978;92:588-9.
4. Moore F. "I've just been bitten by a dog." BMJ 1997;314:88-90.

To the Editor: Talan and colleagues conducted a prospective, multicenter study of dog and cat bites that met specific criteria for infection; their study included culturing of specimens for aerobic and anaerobic bacteria. They conclude that "infected dog and cat bites have a complex microbiologic mix that usually includes pasteurella species but may also include many other organisms not routinely identified . . . and not previously recognized as bite-wound pathogens."

Several studies have suggested that cats are the reservoir for *Bartonella henselae*.[1] Zangwill and colleagues[2] found that patients with cat scratch disease were most likely to have been scratched or bitten by a kitten. An estimated 24,000 cases of cat scratch disease occur annually in the United States, with 2000 hospital admissions. Even here in Japan, we have detected serum IgG antibody to *B. henselae* (titer, >1:64) on standard immunofluorescence assay in 3 of 200 healthy, pregnant women. The prevalence of bartonella infection among symptomatic patients is now thought to be higher than previously recognized.

On the basis of an analysis of three U.S. national data bases, the incidence of cat scratch disease is between 0.77 and 0.86 per 10,000 per year among hospitalized patients, whereas the incidence of the disease among ambulatory patients is 9.3 per 10,000 per year.[1] Is bartonella being neglected as a pathogen in dog and cat bites in emergency departments?

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1. Anderson BE, Neuman MA. Bartonella spp. as emerging human pathogens. Clin Microbiol Rev 1997;10:203-19.
2. Zangwill KM, Hamilton DH, Perkins BA, et al. Cat scratch disease in Connecticut — epidemiology, risk factors, and evaluation of a new diagnostic test. N Engl J Med 1993;329:8-13.

Dr. Fleisher replies:

To the Editor: I appreciate the case report by Jones and Khoosal of a brain abscess due to *P. multocida* after a dog bite to the head in a 21-month-old boy. The authors cite a similar report,[1] and I am aware of a case in a two-year-old child, described by Sutton and Alpert,[2] in whom a brain abscess due to peptococcus species developed under almost identical circumstances. That child had multiple, deep facial lacerations, which required a complex repair in the emergency department and presumably drew attention away from a small puncture wound to the scalp, which went undetected. Although the child received prophylactic antibiotic therapy, he returned four days later with a brain abscess and fever. At surgery, a tear of the dura in the right parietal area was noted.

Jones and Khoosal comment, "The use of prophylactic antibiotics has been recommended for all bites to the head and neck, and such an approach might have averted the devastating consequences in our patient." However, not all authorities agree about the need for prophylaxis in this situation.[3] In addition, I am skeptical whether prophylactic antibiotics would have prevented the brain abscess in their patient. The best hope of avoiding this complication in such cases probably lies in meticulous wound care and in further evaluation to ascertain whether the dog's fangs have penetrated the child's skull.

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1. Klein DM, Cohen ME. *Pasteurella multocida* brain abscess following perforating cranial dog bite. J Pediatr 1978;92:588-9.
2. Sutton LN, Alpert G. Brain abscess following cranial dog bite. Clin Pediatr 1984;23:580.
3. Fleisher GR. The management of bite wounds. N Engl J Med 1999; 340:138-40.

Treatment of Cat Scratch Disease

To the Editor: In their Image in Clinical Medicine, Giladi and Avidor (Jan. 14 issue)[1] describe a 17-year-old boy who was treated with 14 days of oral ciprofloxacin for an infection with *Bartonella henselae* after being scratched on the neck by a cat. Unfortunately, they do not address the controversy regarding the use of quinolones in patients under the age of 18 years.

Clinicians should be aware that the manufacturer of ciprofloxacin states that the drug should not be used in children or adolescents. Arthropathy has been observed in the weight-bearing joints of immature laboratory animals, and a transient arthropathy has been reported in at least one 16-year-old who received high doses of the drug.[2] Similar concern about the use of the drug in children is found in the product labeling approved by the Food and Drug Administration and contained in the *Physicians' Desk Reference*.[3]

The American Academy of Pediatrics states that the use of quinolones may be justified in those under 18 years of age

> when no other alternative anti-infective agent is available or when other available agents would be less effective; however, the drugs should be used only after careful assessment of the risks and benefits for the individual patient and after these benefits and risks have been explained to the parents or caregivers.[2]

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1. Giladi M, Avidor B. Cat scratch disease. N Engl J Med 1999;340:108.
2. Drug information. Bethesda, Md.: American Hospital Formulary Service, 1998:639.
3. Physicians' desk reference. 53rd ed. Montvale, N.J.: Medical Economics, 1999:643-4.

To the Editor: The recent Image in Clinical Medicine entitled "Cat Scratch Disease" might convey the misleading message that masses assumed to be caused by either *B. henselae* (cat scratch), as shown, or mycobacteria (e.g., *Mycobacterium avium* complex and others) should be treated with direct puncture and drainage. Such an erroneous approach frequently leads to a draining sinus with an avoid-

able scar. Conservative management (assuming cancer is unlikely) consists of an attempt to treat the mass with azithromycin[1] and complete removal. In cases in which diagnostic biopsy, drainage, or both are considered to be necessary, it should be performed through a tunnel and not by the direct approach, as shown.

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1. Bass JW, Freitas BC, Freitas AD, et al. Prospective randomized double blind placebo-controlled evaluation of azithromycin for treatment of cat-scratch disease. Pediatr Infect Dis J 1998;17:447-52.

Dr. Giladi and a colleague reply:

To the Editor: We agree with Dr. Bohlmann that the manufacturer's recommendations should be taken into account whenever a drug is prescribed. However, with respect to our patients with cat scratch disease, a few points should be clarified. First, the patient was 17 years and 6 months old, he appeared sexually mature and close to his adult height, and we thought that the risk of ciprofloxacin-induced arthropathy was extremely low. A recent review of data on children and adolescents (>7000 subjects) treated with quinolones concluded that the concern about arthropathy is not justified.[1]

Second, no antimicrobial therapy is required in the majority of cases of cat scratch disease, since adenopathy is usually self-limited.[2] This patient was an exception. Among the several hundred patients with typical cat scratch disease that we have treated over the years, his was one of the most severe cases, characterized by recurrent, painful, and very disturbing suppurative lymphadenitis over a period of seven months. A course of antibiotic treatment seemed warranted.

Finally, when we first saw the patient in 1995, there were no prospective, comparative studies of any antimicrobial agents for cat scratch disease. A retrospective analysis by Margileth suggested rifampin, ciprofloxacin, and trimethoprim–sulfamethoxazole as effective oral agents for the treatment of cat scratch disease, with the last-named being the least effective.[3] Because of the rapid emergence of resistant organisms, rifampin should not be used alone. Therefore, we elected to use ciprofloxacin in this patient.

We are less enthusiastic today about using ciprofloxacin in patients with cat scratch disease because of our impression that it does not modify the course of the disease, as was demonstrated in our patient, in whom new suppurative lymphadenitis continued to develop despite treatment with ciprofloxacin. Azithromycin may shorten the duration of lymphadenopathy, as was demonstrated in a small, prospective, comparative study published recently.[4]

In about 15 percent of patients with typical cat scratch disease, the affected lymph node undergoes suppuration and becomes exquisitely tender. Drainage with a large-bore needle usually results in the almost immediate relief of pain and also provides material for diagnosis.[2,5] This procedure, in our experience (>50 patients over the past three years), does not result in a chronic draining sinus regardless of whether or not the needle is "tunneled" through normal skin. Repeated drainage through a needle was necessary in about one fifth of our patients. Incision and drainage are seldom necessary and may result in the development of a chronic sinus tract.

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Prosthetic-Valve Endocarditis Caused by Penicillin-Resistant *Streptococcus mitis*

To the Editor: Penicillin resistance has been an increasing problem in the treatment of infections due to gram-positive cocci over the past 15 years.[1] Much of the concern has related to the rising minimal inhibitory concentrations (MICs) of antibiotics required to suppress *Streptococcus pneumoniae,* but sharp declines in penicillin sensitivity have also been observed in streptococci of the viridans group and *S. mitis* in particular.[2-4] I report a case of prosthetic-valve endocarditis resulting from infection with an *S. mitis* organism that was fully resistant to penicillin.

The patient, a 48-year-old man with a long history of intravenous drug abuse and three previous episodes of endocarditis, was admitted to the hospital with a two-week history of fever and chills. Nine months before admission, he had received a bovine prosthetic aortic valve for treatment of aortic insufficiency stemming from endocarditis. The patient also had a history of AIDS, hepatitis C, and chronic renal insufficiency caused by heroin-induced glomerulonephropathy. The patient's medications at the time of admission included 1200 mg of azithromycin once weekly. On admission, three of three blood cultures were positive for *S. mitis.* Sensitivity analyses of *S. mitis* showed a MIC of penicillin of greater than 4 μg per milliliter, a MIC of ampicillin of 16 μg per milliliter, and a MIC of vancomycin of 0.5 μg per milliliter or less. On hospital day 3, the patient had third-degree heart block, and a pacemaker was placed. Echocardiography revealed a paravalvular leak. The patient was treated for four weeks with vancomycin in doses adjusted for his serum creatinine level of 2.7 mg per deciliter. This resulted in eradication of the *S. mitis.*

Failure of penicillin therapy for *S. mitis* endocarditis has been reported previously, but in the reported case the organism itself had tested fully sensitive to penicillin.[5] Recent studies have shown that high-level resistance is developing in *S. mitis* species.[2-4] The current case is alarming because it was a life-threatening infection with a viridans-group

streptococcus that was fully resistant to penicillin. If additional cases are reported, the "standard" therapy for subacute bacterial endocarditis may undergo substantial change.

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