strains belonging to serotype 9 were involved in two consecutive infections is <1%. Consequently, differences in the virulence of the pathogens are an unlikely explanation in this case. Moreover, serotype 9 pneumococcus does not appear to be one of the most virulent serotypes [10].

Finally, the short period between the last two pneumonic episodes makes it unlikely that there was a substantial change in the immune status of the host. Thus, no factors related to either the pathogen or to our patient seem to satisfactorily explain the cause of this case of PG. We conclude that PG should be added to the growing list of uncommon complications that afflicts patients with AIDS.

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References

Use of Telephone Medicine for the Care of Patients with Human Immunodeficiency Virus Infection or AIDS: Comparison of a Private Infectious Disease Practice with a University Clinic Practice

Gathering information on a patient, interpreting the data, determining the urgency of the patient’s problem, ascertaining the need for medical intervention, and providing medical advice or prescriptions via the telephone are defined as telephone medicine. Telephone contact between patients and their health care providers is an important method of cost-effective care. When a patient calls a physician and medical advice is given by anyone in the office, a binding physician-patient relationship is formed.

Telephone medicine is described in literature on pediatrics and family medicine, but few articles have appeared in internal medicine or infectious diseases journals even though ≈27% of physician-patient contacts that involve internists occur over the telephone [1, 2]. Callers to general internal medicine physicians are usually >50 years old; the majority are female; and 22% of the calls result in a new prescription, most commonly an antibiotic [3–5]. In one report, most physicians were described as being unsatisfied with telephone practices in their offices [6]; however, formal training can improve the effectiveness of telephone activities [7, 8].

We used SAS descriptive statistics (SAS Institute, Cary, NC) to analyze the content of 109 consecutive patient calls made during office hours to our multidisciplinary, university HIV/AIDS clinic and to analyze the content of 67 calls (of 125 patient calls) related to the care of HIV-infected patients made during office hours to a single-physician infectious diseases private practice.

The staff of the clinic includes eight physicians, four registered nurses, and one nurse practitioner. Physicians serve in the clinic part-time but are available at all times during regular clinic hours. Seventy-nine percent of the patients use Medicaid or are self-paying. The average patient is 34 years of age.

The private-practice staff includes one infectious disease physician who is available 24 hours a day and an experienced registered medical laboratory technician who performs telephone triage during regular office hours, 5 days per week. Patients see her working in proximity to the physician in the office and feel comfortable relating their problems to her on the telephone. These patients primarily use third-party fee-for-service payment plans, although 3% of the patients use Medicaid or are self-paying. 

Seventy-five percent of the calls to the clinic and 51% of the calls to the private practice were originated by the patients. Sixteen percent of the calls made to the private practice and 4% of the calls to the clinic were made by family members. Home health personnel made 21% of the calls to the clinic but only 9.6% of the calls to the private practice. Twelve percent of the calls to the private practice were made by pharmacy personnel, whereas the clinic received no such calls. Seventy-nine percent of the calls to the private practice and 83% of the calls to the clinic were made by men, which probably reflects the greater proportion of male HIV-infected patients at the time of this study.

Medication-related requests made up the majority of calls to both the private practice and the clinic (36% and 52%, respectively). Eighteen percent of the calls to the clinic and 4% of the calls to the private practice were requests for laboratory results,
while 17% of the private practice's calls and 4% of the clinic's calls were related to symptoms. A physician was consulted 46% of the time in the clinic's calls but only 19% of the time in the private practice's calls. Nonphysicians handled 79% of the calls in the private practice and 52% of the calls in the clinic. The physician was required to return 1.8% of the calls in the clinic and 1.5% of the calls in the private practice. Thus, most patient-related calls are handled by paramedical personnel, and the need for physician involvement varies in different practice settings (Table 1).

Attention to inquiries about medications and systematic dissemination of laboratory results (i.e., by means of the mail, e-mail, or facsimile) might reduce the number of calls and change their distribution. Pharmacy-initiated calls might be reduced by systematically prescribing medications during the patient's office visit and proactively providing necessary refills via e-mail or fax. The absence of pharmacy calls to the clinic may be due to differing prescribing habits but also may be because of the presence of an in-house pharmacy. The difference between the number of laboratory-related calls handled by the paramedics in the clinic (18%) and those in the private practice (4%) may be because the practice's physician mails laboratory results to his patients.

Attention to details is important to assure the effectiveness of patient contact via the telephone. The telephone should be answered promptly; the answerer should be alert, reassuring, and recognize that patients' medical and emotional needs can be met over the telephone. The answerer should employ a standardized method of data retrieval in order to ensure that the call is urgent and that patient's questions, descriptions of the problems, the duration of the symptoms, systems' review to localize the complaint(s), suggested therapies, courses of action, and any referrals made are accurately documented.

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References

A Fluconazole/Amitriptyline Drug Interaction in Three Male Adults

Fluconazole is a widely used antifungal agent, and amitriptyline is a still-popular tricyclic antidepressant. We recently encountered three cases in which fluconazole appeared to significantly raise serum levels of amitriptyline, leading to overt toxicity in two cases.

Case 1. A 39-year-old African-American male with AIDS was admitted to the hospital with cytomegalovirus esophagitis and confusion. His medications included fluconazole (200 mg q.d.) and amitriptyline (25 mg t.i.d.). The dosage of amitriptyline was increased to 50 mg t.i.d. to treat neuropathic pain. Three days later, when mental changes had advanced to visual hallucinations, his serum amitriptyline level was determined to be 724 ng/mL (therapeutic levels, 150–250 ng/mL). Therapy with amitriptyline was discontinued; in 4 days the serum level decreased to 270 ng/mL, and the patient's confusion abated. The patient was taking additional medications that included meperidine, hydroxyzine, and ganciclovir.

Case 2. A 35-year-old African-American male with AIDS who was undergoing hemodialysis for renal disease had received maintenance therapy with amitriptyline (50 mg/d) for several months before beginning fluconazole therapy. His initial serum amitriptyline level was 185 ng/mL; at the time that this level was measured, he received a loading dose of 200 mg of fluconazole followed by a dosage of 100 mg po daily. By day 33 of combined therapy, his serum amitriptyline level had risen to 349 ng/mL (he did not, however, have any behavioral changes). Other medications taken chronically during the preceding month had included nizatidine, gabapentin, folic acid, a