He discontinued use of these compounds in September 2004. The results of his laboratory tests are shown in table 1. He did not abuse alcohol or start taking any other new medications, and his viral hepatitis serologic test results and glucose levels were unremarkable. When he was taking these steroid supplements, his 10-year calculated risk of coronary heart disease rose from 1% to 10% [5].

According to a recent review of the literature about AAS use, the prevalence of steroid use among active individuals ranges between 6.2% and 38.4%, and the prevalence among inactive individuals ranges between 0.4% and 9.6%. The prevalence rates obtained from many of the studies did not distinguish single use from prolonged use [7]. Only 1 study has specifically looked at AAS use by HIV-positive, homosexual men; it was found that the prevalence of AAS use was 31.7% [8]. The study did not differentiate therapeutic from nonprescription use.

Lipid and transaminase level elevations have been reported in AAS users [9]. We convinced our patients to discontinue AAS use by explaining the long-term cardiovascular implications of their lipid level abnormalities in particular. The importance of asking patients about steroid use is highlighted by a recent study that shows that only 44% of AAS users had revealed their use to physicians [10].

Patient 1 obtained his steroids illegally from an individual supplier; patient 2 bought his (now banned) steroid precursors over the counter. Internet sources are also readily available. Using the Internet search engine Google, we found that the phrase “buy steroids” resulted in 1,900,000 hits. Many of these Web sites provide AAS dosing instructions and regimens, but downplay the drugs’ potential hazards.

In summary, prevalence data on AAS use in HIV-positive, homosexual men is sparse, but limited results show that the prevalence of use may be high. AAS use may confound interpretation of liver and lipid level abnormalities in HIV-infected patients who receive HAART. AASs are readily available, and vendors rarely reveal their dangers. HIV care providers should routinely screen their patients for steroid use and educate them regarding the drugs’ adverse effects.

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Graham E. Abra and Joseph T. Lonergan
Department of Medicine, University of California, San Diego

References


The Role of Klebsiella pneumoniae in Lung Abscesses: A Geographic Phenomenon (for Now!)

Str—We wish to comment on the informative article by Wang et al. [1] from Taiwan and the erudite editorial by Bartlett [2] concerning the role of Klebsiella pneumoniae and anaerobes in lung abscesses. The conclusions of both the article and editorial comment on the changing bacteriologic characteristics of lung abscesses, with a possible decreased role of anaerobes.

We want to emphasize one notable finding that was pointed out in the discussion section of their article: the high incidence of isolation of K. pneumoniae from patients with necrotizing pneumonia and lung abscess is associated with geographic location. In an observational study of 455 cases of bacteremia from all 6 inhabitable continents, K. pneumoniae infection was found to be more invasive in patients in Taiwan, as judged by severity of illness and mortality. South Africa also had more cases of invasive pneumonia.

In Taiwan, a distinctive clinical syndrome of liver abscess with bacteremia and metastatic lesions has been well described [3–6]. It appears that K. pneumoniae in Taiwan and South Africa is notably more virulent than K. pneumoniae strains in North America, Europe, South America, or the Middle East. In mouse lethality experiments, we found that K. pneumoniae isolates recovered from blood cultures for patients residing in Taiwan and South Africa were more likely to cause death in mice than were K. pneumoniae isolates recovered from bacteremic patients in other parts of the world, including South America, North America, Europe, Australia, and...
Barlett notes that, in the preantibiotic era, a distinctive syndrome of necrotizing pneumonia caused by *K. pneumoniae* was well described. Necrotizing pneumonia, current jelly sputum, bulging fissure and cavitation on chest radiographs, and presence in alcoholic patients is the classic description. The link to alcohol use is a prominent “pearl” of medical knowledge. This syndrome, however, seems to have disappeared from North America and Europe in the past 50 years [7–9]. Some investigators have speculated that many of the original cases of *Klebsiella* pneumonia were actually anaerobic lung abscesses with sputum colonization by *K. pneumoniae* [9]. In an observational study of 230 patients with *K. pneumoniae* bacteremia in the United States published in 1993, we also noted that pneumonia caused by *K. pneumoniae* was not related to alcoholism [7, 8]. On the other hand, in our 2002 report of 445 cases of *Klebsiella* bacteremia, we were startled to find that pneumonia caused by *K. pneumoniae* in South Africa and Taiwan occurred significantly more often in alcoholic subjects, compared with cases in other countries [3].

So, the novelty of isolation of *K. pneumoniae* from lung abscess by the Taiwan investigators noted by Bartlett [2] should not be extrapolated to North America, South America, Oceania, Europe, and the Middle East. The phenomenon of an invasive *K. pneumoniae* infection appears to be associated with an unusually virulent strain that is endemic in Taiwan, although similar reports have emanated from other Asian countries. It is ominous that scattered cases of necrotizing pneumonia, liver abscess, endophthalmitis, and meningitis caused by these virulent strains are now being seen worldwide, including in the United States (V. L. Yu, unpublished data).

**Acknowledgments**


**References**


**Reply to Yu and Chang**

Sir—We thank Yu and Chang [1] for their comments on our article [2]. We agree with their opinion that the high incidence of *Klebsiella pneumoniae* infection in our lung abscess study may be a geographic phenomenon in Taiwan [1]. As we mentioned in the discussion section of our article, *K. pneumoniae* has been found to be the most common pathogen in a variety of community-acquired infections in Taiwan since the 1990s, such as liver abscess, meningitis, prostatitis, and thoracic empyema [2]. Among them, the distinctive clinical syndrome of *K. pneumoniae* liver abscess with bacteremia and metastatic lesions, including endophthalmitis, has been reported repeatedly [3], which was also pointed out by Yu and Chang [1]. What has not been well described is that, other than endophthalmitis, metastatic infections in other sites have also been noted in some patients with liver abscess due to *K. pneumoniae*, such as septic pulmonary emboli, meningitis, prostate abscess, and soft-tissue infection [4]. In our study, only 4% of 28 patients with *K. pneumoniae*-liver abscess had concurrent lung and liver abscess [2]. Similarly, in studies of *K. pneumoniae*-associated meningitis and brain abscess, very few patients had concurrent liver abscess [5, 6].

In addition, the bacteriologic studies of deep-neck infection in Taiwan also revealed that *K. pneumoniae* was the most common pathogen [7, 8]. As in pyogenic lung infection, the pathogenesis of deep-neck infection may start with initial oropharyngeal colonization, followed by invasion into the deep tissue [9]. Most cases of deep-neck infection and pyogenic lung infection due to *K. pneumoniae* have not involved hematogenous spread of the pathogen from another source [2, 9, 10]. Such cases of *K. pneumoniae* infection without bacteremia could not be found in the global study of *K. pneumoniae* bacteremia conducted by Ko et al. [3]. Such a high proportion of *K. pneumoniae* infection was not observed in similar bacteriologic studies from the United States during the same periods [11, 12].

We agree with Yu and Chang’s [1] comment that the strains of *K. pneumoniae* that have spread in Taiwan may be more virulent than are the strains in most other countries.