



The Quiet Storm

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current as of July 1, 2009.

JAMA. 2009;302(1):13-14 (doi:10.1001/jama.2009.952)

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The Quiet Storm

WE TRAVELED BY BAKKIE, AN OFF-ROAD TRUCK WITH plenty of traction. My wife Tania and I, physicians from Tugela Ferry, South Africa, jostled about as we made house calls to see patients living with HIV in rural KwaZulu-Natal province. Even the *bakkie* could not reach a few homes, in which cases we walked the remaining distance over larger rocks and steep embankments. The circular homes that filled the countryside were made from a thick woven straw and remained cool at their center despite the arid heat. Steer horns crowned the doorway of most homes, a melancholy marker of a dead family member's passing. Because of the scourge of HIV, many a rural Zulu home has been decorated with steer horns to guard against further spiritual misfortune.

The community health worker who accompanied us, round and smiling, greeted an *ugogo*, a grandmother who pointed to the other side of the home in the shade. A young mother lay with her toddler, covered in a single worn blanket. She could not move her legs. She could barely muster enough energy to speak. Speckled in a weeping rash, the child was listless and he did not grab for his mother, nor was he fearful of our intrusion. The mother's hair was matted with dirt and dried sweat. Her pale eyes failed to make tears, and a thick white coating of fungus painted her tongue and throat. Protruding ribs prevented my stethoscope from lying flush with her chest while a deep spasm of cough choked her breath.

The cough reminded me of all the patients back at the HIV clinic of the hospital in Tugela Ferry, queued approximately 30 deep and having traveled great distances to refill medications and to see a doctor. A few had slept outside near the clinic to await a chest x-ray in the morning. Others required admission to the hospital for treatment of infections their crippled immune systems could not contain. The reliable delivery of medications for HIV to resource-limited settings of the world is a legitimate triumph. Yet many infected people are identified too late or are also suffering from deadly opportunistic illnesses such as tuberculosis (TB), now complicated by new drug-resistant strains.

I turned my attention back to the young woman.

"*Ubuhlungu?*" I questioned, feeling her ribs. "Pain?"

She looked at me quizzically, no doubt wondering why I had to ask.

We arranged for the transport of the young woman and her son to the hospital in Tugela Ferry. After a clinical diagnosis of TB was made, intravenous fluid was administered, and with the patience of dedicated nurses to feed her, she stomached the first days of six months of TB medica-

tions while physicians awaited the results of a sputum culture. Contrary to the accuracy and ease of the rapid antibody test employed for HIV, the yield of microscopy for TB bacilli in the sputum is diminishingly small in a patient population with advanced immunosuppression and extrapulmonary TB.¹ Estimates have placed the number of HIV-positive patients on the TB ward in Tugela Ferry near 90%. Weeks later the young woman began HIV treatment with a combination of three antiretroviral drugs.

Her son screened negative for TB, but he was also found to be infected with HIV and demonstrated signs of severe protein malnourishment, kwashiorkor. Only after carefully monitored nutritional supplementation did he begin to smile and interact with the staff. Indeed, the child's antiretrovirals required a frequent adjustment in dosage given his encouragingly brisk weight gain.

Luckily the woman's TB was susceptible to first-line medications, and she escaped extensively drug-resistant tuberculosis (XDR-TB). The fear engendered by this frightening initialism is not unfounded. Nearly all patients from this community who have XDR-TB also have HIV, and the disease is fatal in more than 85% of cases.² At the rural district hospital in Tugela Ferry alone there have been 820 patients with drug-resistant TB since 2005, and 57% have been XDR-TB.³ In addition, the transmission of drug-resistant TB in this population can occur in a primary fashion, as patients present with XDR-TB without ever having received TB medications or with drug-resistant strains that are genotypically distinct from previously drug-susceptible TB infection.⁴ The current infection control policies involving respirator masks for staff, maximization of natural ventilation, and cohorting of patients suspected to have drug-resistant TB will likely curb nosocomial transmission, but strict isolation of patients is not possible without structural overhaul of open wards now crowded with as many as 40 patients to a single room. The pediatric ward often houses so many children that HIV-positive infants share a crib.

As most patients present for care late in the course of their illness, the usual patient with XDR-TB in our hospital is only identified when sputum culture and drug susceptibility tests sent months earlier return, but the patient has already died. For the few who survive to culture diagnosis, the approach to long-term care and follow-up varies widely within South Africa. In certain provinces, the diagnosis of drug-resistant TB carries a sentence of up to two years of forced incarceration at a referral hospital with martial quarantine mea-

A Piece of My Mind Section Editor: Roxanne K. Young, Associate Senior Editor.

tures.¹ In KwaZulu-Natal, the spread of drug-resistant TB has outpaced the capacity to provide beds at the overcrowded specialty hospitals. The physicians of Tugela Ferry have responded by partnering with provincial leaders in the Department of Health to model a decentralized management program that provides community-based care for patients co-infected with HIV and drug-resistant TB.⁵ However, XDR-TB is no longer an outbreak phenomenon and has been reported from 55 countries.⁶ Without immediate access to reliable, low-cost, and rapid diagnostics as well as financial resources to aid in early identification of infected individuals, the crisis will only increase in magnitude.

Every physician will encounter at least one patient for whom the question of futility hangs like a heavy cloud. At times in Tugela Ferry, in the midst of a drug-resistant TB and HIV epidemic, the clouds of patients representing this question coalesce with such numbers as to form a quiet storm. As is customary in many hospitals, the nursing staff will place the sickest of patients closer to the nurses station. At the foot of a bed nearest to that station, I have stood paralyzed as the faces of the bed's most newly deceased occupants flickered before my eyes like images in a grim slide reel.

Yet recently Tania encountered a woman and her son at the hospital as they were preparing to be discharged. The woman hugged my wife and thanked her. Tania must have

looked a little puzzled, for the woman pointed to herself, saying, "Don't you remember me?" Tania felt a rush of recognition and joy. The woman's full and spirited smile was in sharp contrast to the memory of the hollow shadow of herself that we found on that day of house calls.

The young woman lifted the hem of her skirt, slapped her thigh, and said, "See! I'm strong."

See. We are strong.

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