

International Issues: Of saints and sickness

A neurology elective in India

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Standing at the top of Humayun's Tomb (figure 1), I had a wonderful view over Delhi. It was the end of February. Spring had suddenly struck and the thermometer climbed. Kites in the hundreds rode the thermals and green parrots filled the air with their screeches.

It was a peaceful scene of a building on which the Taj Mahal was modeled and is the final resting place of the 16th century Moghul ruler Humayun, who fell to his death while descending the steps of his library.

It was the perfect place to stand back, think about a fascinating month, and distance myself from a sense of being overwhelmed by sheer numbers of people, impressions, and contrasts.

A resident, halfway through my 3-year neurology residency, I had come to India to spend an elective rotation in neurology at the All India Institute of Medical Sciences in Delhi, known to the locals as AIIMS (figure 2). It is considered to be one of India's finest government medical institutions, serving not only the citizens of a multi-million bustling metropolis but also those in search of a cure from all over India.

Battling through the dust and traffic on my 1-hour drive to the hospital in the morning, I pass a daily repeating scene: small Suzuki Marutis jostling for space with motor scooters, cycle rickshaws, cyclists, pedestrians, and the occasional tractor or elephant; cows munching on rubbish in the middle of the road, the barber shaving a man at his roadside stand, throngs of small uniformed children on their way to school. A cyclist with a monkey perched calmly on the cycle rack, a man with a red turban on a scooter, a young lady balancing herself elegantly on the back and adjusting her flowing dress in the wind.

I would arrive to dozens of people, young and old, crouching in the dust in front of the hospital building, lying on pieces of cardboard, wrapped in woolen shawls, cotton wool in their ears to fend off the morning chill. Whole family scenes unfolded here: food was eaten from metal tiffin carriers, children were washed and wounds dressed, monkeys and stray dogs joining this organic mélange.

Patients would come from all over India, perhaps as far as 3 days' journey away, to seek help from an AIIMS doctor, revered as among the most knowledgeable and dedicated in the country. Our postgraduate education might be considered to be long but theirs is even longer: after medical school, a year's internship, and 3 years in internal medicine, a specialty training position is awarded usually based on rankings in national examinations (AIIMS has a separate entrance examination). It is a highly competitive process and medical specialties, such as cardiology and radiology, I was told, were currently more sought after than surgical ones.

There were around a dozen residents spread over a 3-year program. Split into two teams and supervised by around 10 rotating attendings, they covered roughly 70 inpatients and 200 outpatients per day. The residents usually had 10- to 12-hour days and Saturday was considered a normal working day, as it seemed to be for most other professions in India. Overnight calls were split evenly between the residents, and usually a junior and a senior resident took calls together to cover the wards, new admissions, emergency room, and ward consultations. Communication was entirely by cell phone and pagers had been relegated to history.

On a bad call day, they might admit 10 patients, see up to 30 emergency room patients, and get another 20 consults in addition to attending their own ward rounds, teaching rounds, and outpatient clinic.

And all this with only one computer dedicated to the residents.

How do they do it, I wondered. Over the next few weeks, I had a chance to see and learn how they coped in a system so very different from what I was used to.

Being a government hospital, care is free, though tests and medications have to be paid for and procured by the patient.

Hardly anybody has health insurance and an interesting mix of schemes and offers has developed: there are government hospitals, essentially free but usually underfunded; private hospitals,

From Massachusetts General Hospital, Boston.

Disclosure: The author reports no disclosures.

Figure 1 Humayun's tomb



such as the Apollo hospital chain, whose marbled corridors cater to the local rich as well as international medical “tourists” (traveling from Kenya for cardiac bypass surgery or from the United Kingdom for a knee replacement); and then there are private clinics.

Most tend to prefer these smaller private clinics, found in plenty in all neighborhoods, advertising their services with gleaming white boards and neon colors. These small clinics might be run by a husband and wife

team, have a few nurses, a dietician, perhaps a social worker and physical therapist, such as the clinic run by a couple I met who came from an entire medical family. Of five sisters, all were doctors married to doctors of a specialty complementary to theirs.

Back at AIIMS, the waiting room is full. I barely manage to squeeze through roughly 200 people who fill the large atrium in front of the clinic corridors. They stand in lines, divided into old and new patients, and have to register before 10:30 AM so that their files can be pulled for the day's clinic. Everybody seems preoccupied with their own worries and thoughts and despite the crowds there is a hushed silence.

There are two residents, in white coats, holding simultaneous reign over one small clinic room. It is still quite cold this morning but there are no provisions for heating. The paint is peeling from the walls in large strips and the tap drips a steady rhythm. There is a metal stretcher in one corner of the room, a blood pressure cuff, and a scale. The doctors sit on opposite sides of a table, stacks of notes between them.

The patients' names are hurtled into the waiting room, the cry taken up by all those waiting to try and spur the lucky next patient into the consultation room. A few patients just walk in without being asked, standing by the door patiently until they can catch the doctor's eye to ask for a signature, a repeat prescription, or a consultation. With great concentration and gusto the two residents dive into their pile of notes and start seeing patients. There is no privacy. No curtain to hide the

Figure 2 Neurology inpatient ward at the All India Institute of Medical Sciences



wasted leg which one man reveals, dropping his trousers (he has wasted leg syndrome, a tropical form of anterior horn cell disease), or to conceal the depigmented lesions on another man's torso (he has leprosy). Histories are taken in Hindi in front of a large audience of relatives, other patients, and drug reps, who keep coming into the room unsolicited. The notes are then written in English into the cardboard bound paper charts and communication among the doctors themselves is a curious mix of English and Hindi. They are kind to include me by translating snippets of the conversation into English.

A young woman, threatened with marriage by her parents, comes with difficulty walking but without objective neurologic deficits, and the mother confirms that she will have the girl married "as soon as she can walk again."

A 22-year-old woman complains of sudden early morning jerking preceding generalized seizures: juvenile myoclonic epilepsy. She is started on valproate and can choose to come for follow-up on Tuesday, Thursday, or Saturday, the clinic days of this particular team.

A 27-year-old man comes with a first seizure; his neurologic examination is non-focal. He, like so many other patients, clutches an old plastic bag containing all his notes and a CT scan. This shows multiple small, calcified lesions with minimal edema. He has neurocysticercosis. The scan cost him around 200 rupees (\$5 or about 2 days' earnings for taxi drivers, such as mine). An MRI would cost around 2,000 rupees (\$50), the IV contrast another 800 rupees.

There is no routine handwashing but there is alcohol hand rub in the room, which is used rarely.

The tea lady interrupts us and brings small paper cups filled with fragrant cardamon chai, which she carries in an old sugar box.

That day, we also see tuberculomas, more epilepsy, Parkinson disease, carpal tunnel syndrome, headache, conversion disorder, strokes, and intracranial abscess, but no brain tumor (these go directly to neurosurgery).

Occasionally, I partake in inpatient teaching rounds; they are quite an experience. Three attendings preside over case presentations and one resident gets picked to discuss the case and then has to answer a barrage of questions on the presumed pathophysiology, anatomy, differential diagnosis, and the merits and shortcomings of chosen investigations. If he fails to provide acceptable answers, the Socratic baton gets passed to the next victim. Perhaps this is not the most comfortable way of learning but it certainly seems to be effective.

On the wards, men and women share the same rooms. There are no curtains to pretend that there is even a modicum of privacy. Each patient has a rela-

tive by the bedside who helps with daily care, and goes to fetch any devices or medications which might be needed. Few medications are in stock on the ward, so if IV fluids or medications are required, the doctor hands the relative a piece of paper with the name of the desired medication and the relative then disappears, to return a few minutes later with the required goods, miraculously procured from the local bazaar. Although some medications might be expensive, most families will do their utmost to scrape together what they have to help.

We see meningococcal meningitis, subacute sclerosing panencephalitis, severe Parkinson disease, multisystem atrophy, tuberculous meningitis (sputum is not tested routinely to see whether there is lung tuberculosis), subacute stroke, varicella zoster encephalitis, and intracerebral hemorrhage with intraventricular extension. None of these patients is in the intensive care unit. They have a high dependency unit in which ventilated and nonventilated patients are monitored more closely. Only one bed has a monitor, but I see no pulse oximeter for the ventilated patients.

It is still light outside as I wander out of the hospital. Groups of huddled waiting patients are getting ready to spend another night in front of the hospital or to go and visit one of the saints that so many people in Delhi revere and seek help from in times of need. One such tomb, that of Nizamuddin, lies in a marble complex at the end of a winding street in the old town. A fascinating mix of people, religions, and classes rub shoulders there, among them some of my patients. Around this area, too, some of the traditional medicine doctors, practicing Unani medicine in the ancient Greek tradition or Aryurvedic medicine, are also found, but on this visit, I do not get a chance to see one in action. I only hear patients' accounts who combine the advice of a traditional healer with that of the AIIMS doctor in an attempt to cover all bases.

I learned a lot during my Delhi medical travels: a lot of medicine and neurology, but also how doctors and patients cope in a very different medical system. These talented doctors could easily choose to work at higher paid institutions elsewhere. Instead they choose to dedicate themselves to caring for the underprivileged and often illiterate groups of society. Their rewards are a rich clinical experience: in numbers, in diagnoses, and in human encounters. This unique combination of efficiently delivered technology at reasonably affordable cost and dedicated physicians and health care workers is a great example of providing extraordinary care in extraordinarily challenging circumstances.

ACKNOWLEDGMENT

The author thanks Professor Madhuri Behari and her colleagues at the AIIMS Department of Neurology for allowing her to visit their department and learn from their expertise.

Neurology[®]

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Neurology 2009;72:e24-e26

DOI 10.1212/01.wnl.0000341879.37511.d0

This information is current as of February 2, 2009

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