Surgery in South Asia

A private complication of a public problem

It is difficult to write about surgery in South Asia with any sense of pride. In most of the region health care, and especially surgical care, is concentrated in major hospitals in big cities. In villages and small towns the health infrastructure exists on paper, but even minor procedures are not carried out because equipment does not work, and surgeons are reluctant to undertake operations for which they are not well trained.

In a community survey of surgical emergencies in the northern areas of Pakistan, the incidences of acute abdominal, trauma, and obstetric emergencies therefore far exceeded the rates of acute surgical intervention.[1] In rural areas of Pakistan the overall rate of surgery was 124/100 000 patients per year compared with 8253/100 000 in the United States. Death rates were correspondingly high. Even in city hospitals the situation is not much different. The few public hospitals that carry out complex surgery have to cope with a huge influx of poor and malnourished patients, in the late stages of disease. The consequences are long waiting lists, staff high handedness, unhygienic wards, and corruption.

The inadequate response of the public sector to the demand for surgical services—which account for about 10-15% of all hospital admissions[2]—has resulted in major growth of the private sector in the past 10 years. Small private hospitals and clinics have proliferated in cities and small towns. These establishments have low overheads, marginal support services, and offer surgery at low rates for the lower middle class.[3] About 60% of the kidney transplants in Mumbai (where the kidneys are usually purchased from unrelated living donors) were done in such establishments.[4] At the other end of the spectrum are expensive five star hospitals that cater to the elite.

Deterioration of the public sector has meant that surgical training has suffered. Derived from an outdated British model, training is unsuited to local problems. Although many patients in the region are dying from strangulated hernias and untreated compound fractures, the amount of laparoscopic surgery and transplantation has increased hugely, without any assessment of whether these methods are cost effective in our environment. Teachers in the medical colleges are paid inadequately and forced into private practice, leaving them little time to devote to teaching or professional development. The consequence of inadequate and unstructured training is that young surgeons find themselves unable to cope with the problems they face in their own countries and, whenever possible, head west.

Many of the problems related to surgical care and training would be better understood if there were some introspection through audits and research on indigenous problems. There are little hard data to compare outcomes with the West. However, a study from a teaching hospital in Pakistan shows surgical wound infection rates higher than those reported in the United States.[5] Unfortunately such audits are uncommon, sometimes for fear of litigation. Research rewards are practically non-existent because promotions are based on seniority and cronyism rather than academic excellence. Thus the beneficiaries are not ideal role models for young surgeons.

Is there any hope? We can try to draw lessons from models of effective surgical care delivery provided by mission hospitals like the Christian Medical College in Vellore, India and Bach Christian Hospital in rural Pakistan. At the Bach Christian Hospital surgery is performed with good outcomes by using limited resources and low technology. The mortality for open prostatectomy is 1%, as is the transfusion rate.[6] Patients and their relatives, who help in postoperative care, are dealt with compassionately. Another model is the autonomous public institute supported by philanthropy. One such is the Tata Memorial Hospital and Cancer Research Institute in Mumbai, South Asia's leading cancer institute, where 24 000 cancer procedures are performed annually, with good outcomes. Another is the Sindh Institute of Urology and Transplantation in Pakistan, which does 110 renal transplants annually with internationally comparable results.[7] The Aga Khan University in Karachi is a not for profit private teaching institution, which provides surgical training and publishes research of high quality.

These successful institutions have a sense of mission, a vision, and leadership. Autonomy is coupled with accountability, organisational ability to manage resources efficiently, and a willingness to learn from experience. The credibility of these institutions must be replicated, especially in the public sector. For it is the public hospital that is the main vehicle for delivery of efficient, innovative, and effective surgical care to the vast populations of South Asia.

Musthaq Ahmed *associate dean*

Aga Khan University, Nairobi, Kenya

Asad Raja *professor*

Department of Surgery, Aga Khan University, Nairobi, Kenya

Samiran Nundy *consultant*

Department of Surgical Gastroenterology, Sir Ganga Ram Hospital, New Delhi 110060, India (snundy@hotmail.com)

Competing interests: None declared.

1 Ahmed M, Shah MA, Luby S, Drago-Johnson P, Wali S. Survey of surgical emergencies in the northern areas of Pakistan. *Trop Med Int Health* 1999;4:1360-2.
2 King M, Bewes P, Cairns J, Thornton J. *Primary surgery, vol. 1*. Oxford: Oxford University Press, 1990.
3 Yazbeck AS, Peters DH, eds. *Health policy research in South Asia: building capacity for reform*. Washington, DC: World Bank, 2003. http://lnweb18.worldbank.org/SAR/sa.nsf/General/59570FEA7FBC122185256E1200819F2B?OpenDocument (accessed 25 Mar 2004).
4 Vas CJ. Problems of legalising brain death in India. In: Pande GK, Patnaik PK, Gupta S, Sahni P, eds. Brain death and organ transplantation in India. *Natl Med J India* 1990:29.
5 Pishori T, Siddiqui AR, Ahmed M. Surgical wound infection surveillance in general surgery procedures at a teaching hospital in Pakistan. *Am J Infect Control*. 2003;31:296-301.
6 Condie JD Jr, Cutherell L, Mian A. Suprapubic prostatectomy for benign prostatic hyperplasia in rural Asia: 200 consecutive cases. *Urology* 1999;54:1012-6.
7 Rizvi SA, Naqvi SA, Hussain Z. Jawad F, et al. Renal transplantation in developing countries. *Kidney Int Suppl* 2003;83(suppl):S96-100.

BMJ 2004;328:782