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EDITORIAL

The Emergence of Surgical Expertise in the Care of the Critically Injured Patient in the Arab Gulf States

John D S Reid

بزوغ الخبرة الجراحية في حالة رعاية المريض المصاب بدرجة حرجة في دول الخليج العربي

جون دي اس ريد

The Arab Gulf States have undergone a rapid emergence from a rural society into modern urbanisation in a relatively short period of time. In the past century, the world's hunger for petroleum products has accelerated the interaction with Arabian society and brought new dangers, the most striking being the introduction of the automobile. According to World Health Organization statistics,[1] the death rate on the roads is approximately four-fold greater in the Gulf States than in Europe or America and the financial cost is in the billions of dollars.[2]

In response to this epidemic, extensive prevention programmes have been initiated, aimed at curbing the volume of violent road injuries and death. An example of this is the *Salim and Salimah, Safe and Sound*™ campaign in Oman,[3] which targets the unsafe practice of children riding, unrestrained, in the laps of adults and promotes the use of child car-safety seats.

While the prevention of road injury and death is a major societal challenge for the Gulf States, so also is the response of the trauma system to the patient, once injured. The goal is the reduction of further harm and the delivery of optimal care. The principles of care have been promulgated worldwide, including the Gulf States, by the American College of Surgeons (ACS), Committee on Trauma, through the *Advanced Trauma Life Support* course. The ACS has also published the details of the infrastructure thought necessary for this care in *Resources for Optimal Care of the Injured Patient.*[4]

The move towards western-style health care began with medical missionary work. In Oman, the Reformed Church of America established early hospitals.[5] With the stimulus of petroleum resource development, it was the vision of the leaders that was instrumental in bringing modernised health care to the people. By 1947, King Abdul Aziz Ibn Saud of Saudi Arabia saw the need for modern medicine in his country. The extensive health programme there today had humble beginnings with the King purchasing four complete 'packaged' hospitals from American army surplus to begin to serve the needs of his people.[6] Over the ensuing years, a system of both privately and publicly funded hospitals has been built up to the extent that the Gulf States now have excellent medical facilities.[7] Today, Oman has 58 hospitals, 49 of which are directly administered by the Ministry of Health.[8]

This rapid development of modern medical care necessitated the importation of both technology and personnel to the Middle East. In addition, some medical care has been, and continues to be outsourced. The outsourcing can occur between the Gulf States, but also to other states in the Middle East, or farther afield to Europe, Britain, India and America.

The challenge for the Gulf States is sustainability. The importation and exportation of medical care is costly and consumes resources that could be used in establishing a cost-effective system of care for their populations. Governments are now attuned to the problem and are currently directing

Department of Surgery, St Paul's Hospital, Vancouver, Canada
Email: jreid@providencehealth.bc.ca

efforts at limiting the tenure of foreign doctors[9] while stimulating the importation of expertise through medical and fellowship training by their own citizens in the West. Trainees in all areas of medical and surgical specialisation have travelled to centres of excellence around the world. Their return has resulted in the Gulf States accruing an ever-expanding pool of well-trained caregivers.[10] Despite the development of excellent education systems and medical specialty boards, this pool of citizen-physicians is in the minority and in Oman remains small.[11]

For the returning trainee, there can be a number of impediments. There is a need to establish a viable practice and maintain the valuable skills learned elsewhere. A burden of administrative work is counterproductive to this occurring, but with the returning trainee who brings new ideas and enthusiasm there can be a natural tendency assign to them the tasks associated with change initiatives. This can hamper the early development of the newly returned doctor. Conflicts with the status quo of the established patterns of practice may lead to frustration when models of care, learned at a centre of excellence elsewhere, cannot be quickly and easily initiated at home. It is important for leadership to recognise these challenges to the new doctors and to ameliorate the frustrations while using the opportunity to benefit from their newly acquired expertise.

While the difficulty of fitting into the system is common to many practitioners returning from overseas training, it is particularly important in the context of the surgeon caring for the injured patient. Not only must they bring their skills to the operating room, but also it is incumbent upon the trauma surgeon to participate in the wider arena of trauma care from injury to outcome.

Apart from often being a surgical challenge, the treatment of injury is a system problem and requires a systematic response to obtain optimal results. In his landmark studies, Trunkey demonstrated this fact leading to organised trauma centres resulting in improved care when measuring preventable death.[12] He also described the need for trauma system development.[13] The Major Trauma Outcome Study[14] established the benchmarks for trauma care and permitted refinement of the evaluation of trauma systems such that the performance of a hospital could be judged against known standards. Trauma centres and trauma systems can now be evaluated in the context of an accreditation process when combined with an audit process of trauma outcomes. With time, the role of the system in the care of the trauma patient is being refined.[15-17] More work needs to be done in developing standards that will evaluate the continuum of care from injury through to rehabilitation of the patient and not just the crude outcome measure of mortality. It is necessary to know if we are also achieving the optimal quality of life possible for the patient given the nature and severity of their injury.

Audits and accreditation related to trauma injury may not be well developed in the Gulf States,[11] but they are a necessary component of care. The full spectrum of individuals involved in the care of the trauma patient should be engaged in this process, and it is especially important that surgical expertise be included.

The focus of the trauma surgeon is evolving and recent trainees in surgery are aware of this fact. In a recent survey, fewer than 100 residents in the entire United States chose to pursue additional training in trauma and critical care.[18] The reasons are likely multifaceted, but current thinking suggests that the increase in non-surgical management of patients, because of improved diagnostics with computed tomography scanning and protocols of non-operative management, are rendering the specialty less attractive to surgeons.

The American Association for the Surgery of Trauma has convened an ad hoc committee to define the future role of the trauma surgeon.[19] The solution includes training which many returning Gulf State surgeons have acquired. It includes expertise in trauma surgery as well as acute-care surgery and most importantly surgical critical care. This reorganised specialty encompasses areas of practice that have been traditionally a part of surgical training and expertise, but have been fragmented as general surgery moved into many subspecialties and away from acute medicine.

It is hoped that this reorganisation of the specialty will revitalise the practice of trauma surgery to make it attractive to those choosing career paths. This challenge is not limited to the West, but also is a challenge for the Gulf States. If surgeons cannot be attracted into the management of trauma, society as a whole will suffer through the loss of expert care for the injured patient.

Care of the injured patient in the Arab Gulf States has a special significance for the population, particularly because of the high incidence of motor vehicle-related trauma. While efforts are being directed towards primary prevention and, in many ways, the greatest gain from morbidity and mortality can be achieved here, there is a need to craft a system that minimises the outcome of the injury when it does occur. Not only does this require system organisation, but also it is essential that the expertise gained abroad by surgeons training in trauma and critical care be incorporated into the system.

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