

The Development of Anaesthetic Services in Jamaica

MD Scarlett, A Crawford-Sykes, HE Harding

“No nation, no race can face the future with confidence unless it knows what it is capable of. This is the function of history”. Charles Finch III.

ABSTRACT

The development of anaesthetic services in Jamaica arose out of the recognition that dedicated physicians offered a better morbidity/mortality profile to patients. From untrained personnel offering anaesthesia at the turn of the 20th century, much progress has been made, such that specialized anaesthetists have been trained for the various surgical subspecialties.

Keywords: Anaesthesia training, anaesthetic services, improve outcome

Desarrollo de los Servicios Anestésicos en Jamaica

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“Ninguna nación, ninguna raza, puede enfrentar el futuro con confianza, a menos que sepa de lo que es capaz. Esa es la función de la historia.” Charles Finch III.

RESUMEN

El desarrollo de los servicios anestésicos en Jamaica surgió del reconocimiento de que médicos dedicados ofrecían así un mejor perfil de morbilidad/mortalidad a los pacientes. Desde los tiempos en que un personal sin entrenamiento ofrecía anestesia en las postrimerías del siglo 20, se ha avanzado un gran trecho hasta nuestros días, en que anestesiólogos especializados reciben entrenamiento para realizar su trabajo en diversas sub-especialidades quirúrgicas.

Palabras claves: Entrenamiento en anestesia, servicios anestésicos, mejorar los resultados

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Anaesthetic Services: Pre-World War II Era

The period 1846 to 1853 marked the ‘birth’ of anaesthesia internationally. Up to the Second World War, surgeons acted as their own anaesthetists or relied on untrained colleagues (pharmacists or nurses), to administer anaesthesia (1). In Jamaica, doctors were dissatisfied with this situation, because of the anaesthetic-related deaths, as well as the limited options of anaesthetic drugs (2). Dr Aubrey MacFarlane, a surgeon in Hanover, Jamaica, related his experience as follows, “When I started in practice I found that I had been given a newly appointed matron and pharmacist. None of them had any expe-

rience in anaesthesia. I showed them how to give ether alone or a mixture of ether, alcohol and chloroform, which was a lot easier to use but rather dangerous. Every now and again, they would lose control and I would have to resuscitate the patient. That was why I got so interested in regional anaesthesia”. He taught himself the rudiments of local and spinal analgesia (2, 3), knowledge he later used to contribute to the development of anaesthesia at the Kingston Public Hospital (KPH).

In Kingston, the capital city, anaesthetic services were slightly better. A McKesson intermittent flow anaesthetic machine was present at the KPH. However, the “rag and bottle” with chloroform and ether remained the routine anaesthetic technique. The surgeons gave anaesthesia for each other, or handed the anaesthetized patient to a pharmacist or nurse, whoever was available, before proceeding with the operation. Continued dissatisfaction with the number of anaesthetic-related deaths, regardless of personnel, resulted in the decision that the administration of anaesthesia should be entrusted to dedi-

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cated doctors. Leo Freeman was the first physician selected for training. In 1936, he and others went to the United Kingdom (UK) for formal postgraduate training in anaesthesia (2, 3).

Eric Swaby received basic training in the principles and techniques of anaesthesia from Sir Ivan McGill during his undergraduate medical programme in the UK. He was therefore able to offer better anaesthetic services in the private hospitals in Kingston. His personal record of one thousand anaesthetics performed from September 1935 to January 1941 showed much versatility with regards to the drugs and anaesthetic techniques (3). The drugs used included not only chloroform and ether, but also avertin and barbiturate, and the anaesthetic techniques included tracheal intubation and inhalational anaesthesia *via* a portable Boyle's machine. These were uncommon techniques at that time. The public service benefitted from his expertise when he was invited to perform two sessions per week at the KPH. He had become a specialist by practice, and was commissioned into the army in 1941 as a specialist anaesthetist.

Post-World War II

World War II as well as the bureaucracy of the government's health service slowed the improvement in the cadre of dedicated anaesthetic personnel and the standard of anaesthetic services. In 1937, Dr Ivan Parboosingh was appointed as the emergency surgeon, as well as the anaesthetist at the KPH. The then-trained anaesthetist, Dr Freeman, was reassigned to the non-anaesthetic post of Senior Medical Officer at the Spanish Town Hospital (3). A similar thing happened to Dr Doris Verley, who joined the government service in 1939. She began her anaesthetic career as an assistant to Dr Parboosingh in 1940. This was interrupted by her appointment as medical officer at a primary care institution, and anaesthetic services were continued by two untrained physicians. Dr Verley was reassigned to KPH in 1946 and was then appointed the first full time anaesthetist. On the insistence of the chest surgeon, Dr Richard Cory, for "more sophisticated" anaesthetic methods, she was allowed to pursue the Diploma in Anaesthesia in Edinburgh. She returned armed with drugs, a Gilmore anaesthetic machine and equipment which allowed for muscle relaxation and endobronchial anaesthesia (3).

In 1951, Dr Verley was asked to assist with the set-up of anaesthetic facilities at the soon-to-be opened University College Hospital (UCH). She was invited by the Dean of the Faculty of Medicine (FM) to apply for the post of specialist anaesthetist, with the knowledge that it was not on par with other specialists. This, she refused, and in that same year the government gave full parity to anaesthesia by appointing her to the newly-created specialist anaesthetist post (2, 3). Dr Victor Keating, an Irishman and an officer in the Royal Air Force Corps, was recruited for the post at the UCH. He became the first Head of Anaesthetics, with responsibilities to organize anaesthetic service and training. A reciprocating relationship developed between Dr Keating and the anaesthetists at the KPH.

The Ministry of Health's initiative to improve anaesthetic standards resulted in the purchase of 22 Boyle's anaesthetic machines in 1954. One machine was placed in each rural hospital even though there was no trained anaesthetic personnel (3), a typical example of 'putting the cart before the horse'.

Dr Freeman remained discontented with the paucity of trained anaesthetic personnel, especially in the rural areas. In 1954, he proposed to the government that nurses be funded for the United States of America (USA) nurse anaesthetist training programme. There was marked opposition from the doctors, which delayed but did not deter the training of nurse anaesthetists (3–5). Due to his persistence, several nurses received apprenticeship anaesthetic training at the KPH, and in 1968, twelve nurses received specialist training in the USA. These nurses returned to the rural hospitals and became the main (87%) anaesthetic personnel (6). This was in sharp contrast to Kingston where over 80% of anaesthetic services were provided by physicians trained in the UK (6). At the UCH, it was a completely physician-based service (7). Trained nurses in the rural areas received assistance from travelling anaesthetists or untrained nurses. An islandwide survey of anaesthetic services in 1969 highlighted this dichotomy between urban and rural areas, and the dire need for local training programmes (8).

Ivor Campbell was appointed the second specialist in anaesthesia at the KPH in 1957. Later that year, he was also appointed an Associate Lecturer to the UCH, and was seconded from the government service to assist Dr Keating. Together they provided all the anaesthetic services for the UCH and training of the medical students (2–4).

The Impact of the Anaesthetic Training Programmes and Intensive Care Facilities

Further development occurred during John Sandison's tenure (1963–1972) as Head of the Department of Anaesthetics at the University Hospital of the West Indies (UHWI). He spearheaded the development of a rudimentary intensive care unit (ICU) which was set up in the recovery room (RR) when the main operating suite was opened in July, 1962 (9, 10). He formulated the plans for the building of the freestanding multi-disciplinary 8-bed unit (the present ICU-A). The impetus for this was the increased demand for intensive care from the medical and surgical services. This development enabled the first open heart surgery to be performed on April 9, 1968, and allowed the expansion of other surgical specialities (10, 11). Subramanian Sivapragasam, a graduate of the Diploma in Anaesthetic programme at The University of the West Indies (UWI), Mona, was instrumental in the development of cardiac anaesthesia and single-handedly provided cardiac anaesthesia from 1968 to 1994, when he retired. Professor Sandison prudently started the first post-basic nurse ICU training course in order to provide trained nurses locally, rather than resorting to overseas recruitment. Also, his successful lobbying for an independent department allowed him to recruit staff and conduct anaesthetic-related procurement without the input of other

Heads of Department (10, 12). His ICU plans came to fruition with the opening of ICU-A in 1975, during Professor John Homi's tenure as Head of Department. This was the only adult ICU for the entire island with its population then of 1.9 million, and also served other Caribbean islands. A second 8-bed ICU (ICU-B) was opened in 2005. This was a joint venture between the government of Jamaica and the private sector organizations to facilitate more elective cardiac and neurosurgical surgeries. Professor Homi's visionary acumen was demonstrated in his acquisition of the first pulse oximeter in the island in 1988. Twenty-three years later, the World Federation of Societies of Anaesthesiologists (WFSA) set as its goal, the Global Pulse Oximetry Project to improve the quality of anaesthetic care globally by looking at ways to develop affordable, robust pulse oximetry devices for operating rooms in the developing world and to develop a training programme to improve provider response to hypoxaemia.

The Diploma of Anaesthetics (DA) [instituted under John Sandison] and the Doctor of Medicine (Anaesthetics) [DM] (instituted under John Homi) at the UWI started in 1966 and 1974, respectively. These have produced 200 and 112 trained physician anaesthetists to 1994 and June 2011, respectively, most of whom have remained in the region making positive impact on anaesthetic services and standards. In Jamaica, this has resulted in the expansion of anaesthetic and intensive care services across the island. The Bustamante Hospital for Children opened its 4-bed ICU in 1974. This was expanded in 2004 to facilitate cardiac surgery. A 4-bed adult ICU unit was opened in 1994 at the KPH and was upgraded to eight beds in 2002. The Cornwall Regional Hospital's 4-bed ICU was opened in 1997, and upgraded to 7 beds in 2008. The majority of the nurses working in these ICUs throughout the island were trained at the University Hospital of the West Indies or the KPH and the doctors were mostly DM graduates.

Fifty trained consultant physician anaesthetists are currently working in the various hospitals throughout the island. Only four hospitals in the rural area are without a consultant physician anaesthetist. In these hospitals, anaesthesia is provided by nurse anaesthetists who are supervised by consultant anaesthetists from designated hospitals. The conduct and standard of anaesthetic care across the island are audited by the Senior Government Anaesthetist who reports to the Ministry of Health, which has overall responsibility for healthcare of Jamaicans. Nurse anaesthetists remain crucial to the improvement of anaesthetic services to the population. Local training has graduated 88 nurse anaesthetists since 1981, 75% of whom have given their services to Jamaica (personal communication with the director and course coordinator).

The cadre of locally trained physician anaesthetists has enabled the local anaesthetic services to rise to that of international standards. These include: (i) improvement in monitoring, (ii) increased use of regional techniques, with routine use of spinal anaesthesia for operative delivery and nerve blockade

using the nerve stimulator or ultrasonography, (iii) use of ultrasonography for vascular access, (iv) development of chronic pain services and (v) pre-anaesthetic clinics.

CONCLUSION

Anaesthetic services in Jamaica have improved from the era of struggling to get dedicated and trained personnel and full recognition of the specialty, to having highly trained consultant anaesthetists in most hospitals assisted by well-trained nurse anaesthetists. There is increased sub-specialisation of physician anaesthetists. The practice of the surgeon supervising the nurse anaesthetists is no longer acceptable and is indefensible. The goal is to continue to train physician anaesthetists to international standards and have them assigned to all hospitals across the island. This will enable them to spearhead further advancements in anaesthetic techniques and to fulfil the ever increasing roles as perioperative physicians and pain management teams. This can only augur well for further improvement in the standard of anaesthetic and intensive care to the nation.

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