

Neurosurgery in the Dutch Antilles: A Minireview of Recent Developments

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Curaçao a small island in the Southern Caribbean Sea and part of the Dutch Kingdom has developed its neurosurgical department in recent years. The department of neurosurgery has been facing challenges like low- and middle-income countries where neurosurgery is scarce but is slowly but surely succeeding in establishing a leading neurosurgical department in the Caribbean.

KEYWORDS

Dutch Caribbean, Curaçao, Neurosurgery, Global Neurosurgery

1 | INTRODUCTION

Curaçao is an island in the Southern Caribbean Sea, which formed part of the Dutch Antilles together with Aruba, Bonaire, part of Saint Martin, Saba, and Statia. Aruba was the first country of the Dutch Antilles to dissolve in 1986 (1). On October 10th of 2010, Curaçao and Saint Martin also became a constituent country within the Dutch kingdom. Bonaire, Saba, and Statia became “special municipalities,” also known as administrative divisions, within the Dutch state (2).

Curaçao is the biggest of the six islands, with an area of 444 km²/ 171.4 sq.mi, situated 65 km (40mi) north of the Venezuelan coast (3). Curaçao is of multi-cultural composition (mainly Afro-Caribbean) and has three official languages: Papiamentu, Dutch, and English. Spanish is widely spoken on the island as well (3). It has a little less than 160,000 inhabitants (4).

2 | NEUROSURGERY ON CURAÇAO

Aruba and Curaçao are the only two islands that provide Neurosurgical services in the Kingdom of the Dutch Antilles and have been doing so for several decades. The neurosurgical department of each island consists of one neurosurgeon. Until 2016 both neurosurgeons were native of their island and had completed their neurosurgical educational formation in the Netherlands. Until that period, a gradual decline in complex neurosurgical procedures were performed on Curaçao with concurrently increasing financial difficulties for its former hospital (Stichting Elisabeth Hospital, SEHOS). Neurosurgical medical referrals to neighboring countries such as Colombia, the Netherlands, and Aruba reached a staggering height after the retirement of the former neurosurgeon in 2016 and absence of a successor.

In that same year, a positive development in the neurological department occurred, where until then, a soloist private practice of Neurology was transformed into a four-person Neurological department contracted by the hospital. In 2017, a successor, the first female neurosurgeon of the Kingdom of the Dutch Antilles, born in the Netherlands of Angolan parents and trained in the Netherlands and Brazil, was contracted by SEHOS to give rise to a new neurosurgical department with the main goal of providing high-level neurosurgical care, saving lives and decreasing medical referrals to other countries.

Current western neurosurgical care is increasingly being centralized to be able to provide top-level care. The need for great quality of care, patient-reported outcome measurements, and functional outcomes of surgery is increasingly becoming important (5); this has given rise to the usage of more technical assisted surgery and minimally invasive procedures. Resources on the islands are limited, and therefore, we were faced with challenges to establish a high western quality level of care (6). This does not only apply to the availability of Neurosurgery, and its resources on the island, but also the maintenance and development of the array of surgical skills needed locally, establishing appropriate labor hours, partnership and collaborations with academic neurosurgical centers development specialized nursing wards and supporting departments, scientific research departments, and generate future successors (6,7).

3 | A NEW ERA

Since 2017 the Neurosurgical department has slowly evolved into a top-level care unit due to financial, personnel, and educational investments. Currently, there is a cooperation contract with two academic neurosurgical centers in the Netherlands (Erasmus Medical Center in Rotterdam and the University Neurosurgical Center Holland, The Hague, and Leiden) to ensure a broad complex neurosurgical palette with reverse medical referrals where one of these neurosurgeons regularly comes to Curaçao to perform and teach specific neurosurgical procedures and also partakes in the regular neurosurgical practices (i.e., on-call duties, outpatient clinic, and clinical practices). The local government has decided to invest in neurosurgical care and several medical devices and equipment were purchased like (cranial and spine navigation, 3D C-arm, modern microscope, high-speed drills, spine OR table, ventriculoscope, intracranial monitoring devices, and all instruments have been upgraded) as have the consumables. With these investments we have been able to decrease medical referrals about 90% and resulting simultaneously in financial advantage for the country. Most of the neurosurgical care consists of complex spine, peripheral nerve, cranial oncology, and traumatic brain injury surgeries.

Furthermore, a new medical center (Curaçao Medical Center) has been inaugurated in November 2019, starting a new era in excellence of care. With state-of-the-art equipment, electronic medical charts and reorganization of the medical system, for example fewer private practices and more hospital contracted physicians, Curaçao has elevated the medical care on the island in general and has taken on a prominent role in the Dutch Kingdom regarding neurosurgical care locally and regionally.

Since the COVID-19 outbreak, the vulnerability of our islands has become apparent. Reorganization of medical care and its' referrals has occurred. Curaçao now receives elective and semi-urgent referrals for Saint Martin, Saba, Statia, and Bonaire. Extreme urgent care, i.e., brain trauma, is still a challenge due to the distances between the islands, unfortunately. The islands of the Dutch kingdom have been working together closely to secure more harmonious medical care. Recently the Dutch Caribbean Hospital Alliance (DCHA) has been formed to ensure continuity in care and a healthy financial, economic state (8); this means that steps will be taken to reinforce the neurosurgical care in Aruba and Curaçao in a collaborative manner.

There are still many challenges our neurosurgical department faces many challenges as we lack the complete neurosurgical palette, such as endovascular treatment, which is still something that we want to achieve soon. We are working hard to achieve a continuous scientific research group to publish our work and increase our visibility in the world.

Currently, the neurological department has increased to 5 neurologists, an additional retired neurologist supports the education of Dutch medical students during their rotations, two local physicians are currently in a residency program (one neurology and one neurosurgery) to become an addition to our department soon. Finally, we believe that the Islands should join forces to assure a stronger future together. (6,7).

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