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Original Article

Thyroid Surgery at a Volunteer Program in Sub-Saharan Africa[☆]

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A B S T R A C T

Introduction: The aim of this study is to demonstrate our experience at a volunteer surgical program in Cameroon, which is of special interest given to the inability to adopt international treatment guidelines for thyroid surgery in areas of limited resources due to the lack of preoperative testing and to the difficulty to obtain substitutive hormonal treatment.

Methods: This is a prospective observational study that includes 16 cases of thyroid surgery in Dschang (Cameroon) during June 2015. The patients were previously selected by a local medical team. All patients were black, 15 women and one man, with a mean age of 41 years. The surgical technique used for the removal of unilateral disease was hemithyroidectomy with isthmectomy and bilateral subtotal thyroidectomy for bilateral disease.

Results: Five subtotal thyroidectomies, 9 hemithyroidectomies and 2 isthmectomies were performed. Prethyroid muscles were divided only in one case. We visualized 86% of the parathyroid glands and 84% of the recurrent laryngeal nerves. The main complications observed were one symptomatic cervical hematoma that required reoperation and 2 surgical wound infections. There were no clinical episodes of hypocalcemia or recurrent nerve lesion. The mean length of stay was 2.3 days. At follow-up, all bilateral thyroidectomies developed high TSH levels.

Conclusions: Thyroid surgery is safe in developing countries adopting protocols and techniques we use in our environment (avoiding total thyroidectomy). Bilateral thyroidectomies

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should not be performed unless functional studies are available in the follow-up and a thyroid hormone supplement stock guaranteed whenever necessary.

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Cirugía tiroidea en programas de cooperación en África subsahariana

R E S U M E N

Palabras clave:

Tiroides
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Nódulo tiroideo
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Introducción: Nuestro objetivo es describir la experiencia adquirida en un programa de cooperación dedicado a la cirugía tiroidea en Camerún. Su interés radica en la imposibilidad para seguir las guías internacionales de tratamiento en áreas de recursos imitados debido a la falta de estudios preoperatorios y a la dificultad para conseguir medicación hormonal sustitutiva de por vida.

Métodos: Estudio observacional de una cohorte de 16 pacientes operados de enfermedad tiroidea en Dschang (Camerún) en junio de 2015. La técnica quirúrgica empleada fue la hemitiroidectomía con istmectomía en la enfermedad unilateral y la tiroidectomía subtotal bilateral en la enfermedad bilateral.

Resultados: Todos los pacientes eran de raza negra, 15 mujeres y un hombre, con edad media de 41 años. Se realizaron 5 tiroidectomías subtotales, 9 hemitiroidectomías y 2 istmectomías. Cuatro pacientes presentaban componente intratorácico. Fue necesaria la sección de músculos pretiroideos en un caso. Se visualizaron las glándulas paratiroides y los nervios laríngeos recurrentes en el 86 y el 84% de los casos, respectivamente. Se dejaron drenajes en 7 casos y la mediana de duración de la intervención fue de 75 min. Como complicaciones cabe destacar un hematoma cervical que precisó reintervención y 2 infecciones de herida quirúrgica. No hubo hipocalcemias clínicas ni lesiones recurrenciales apreciables. La estancia media fue de 2,3 días. A largo plazo, los pacientes con tiroidectomías bilaterales presentaban niveles elevados de TSH.

Conclusiones: La cirugía tiroidea en países subdesarrollados, adaptando los protocolos y técnicas que utilizamos en nuestro medio (evitando la tiroidectomía total), tiene una tasa de complicaciones asumible. No deben realizarse tiroidectomías bilaterales salvo que se disponga de estudios funcionales y se asegure previamente la disponibilidad de la hormona tiroidea.

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Introduction

The World Health Organization (OMS) estimates that 43% of the African population has iodine deficiency,¹ which, together with other typical goitrogenic factors of African diets (cyanogenic glycosides in cassava, thiocyanate, selenium deficiency)^{2,3} make goiter an endemic problem.

In Cameroon, which is 152nd out of the 187 countries classified in order of their Human Development Index according to the United Nations Program for Development report from 2014,⁴ there is a series of circumstances that influence the practice of thyroid surgery.

In these areas of limited resources, this type of surgery is quite a logistical challenge. It is impossible to conduct proper preoperative studies, which makes it difficult to comply with the recommendations of international treatment guidelines.⁵ Hence, we surgeons must adapt our methods to the circumstances. Furthermore, the difficult access to medication in cases where thyroidectomy causes sequelae (hypothyroidism,

hypocalcemia) can convert thyroid surgery into a potentially dangerous surgical intervention.

A large part of the sub-Saharan African population has absolutely no possible access to this type of surgery in their countries due to the exorbitant cost compared to the income levels of this region.⁶ Healthcare cooperation surgical programs provide one of the few possibilities for treatment.^{7,8} However, participating surgeons frequently express reticence to perform thyroidectomies due to the lack of adequate preoperative testing and the possible development of serious complications, which are easily treated in the Western world but are difficult to resolve in these countries given the lack of resources.

The objective of this study is to describe the results of a series of thyroidectomies performed in Cameroon through a healthcare cooperation program. The article will explain the peculiar adaptations necessary in both the therapeutic approach and technique in order to conduct as many surgical interventions as possible and minimize postoperative complications.

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