Mnazi Mmoja Hospital

The main goal was to describe the general characteristics and demographic data of myelomeningocele (MMC) patients at Mnazi Mmoja Surgical NED Institute (MMSNI) in Zanzibar and to assess the clinical characteristics and medium-term result-impact of the implemented healthcare measures.

This is a retrospective study on 41 MMC patients treated at the MMSNI in Zanzibar (Tanzania) from September 2016 to September 2018. Patient demographics, prenatal care, clinical and radiographic characteristics, surgical management and nursing care, and clinical outcomes were abstracted.

The mean age of the patients was 6.1 ± 4.6 days, and 53.7% were males. A total of 51.2% came from Zanzibar, 39% to Pemba, and 9.8% from mainland Tanzania. Maternal ultrasound checkups revealed hydrocephalus in 18.7% of the cases. 85.4% of the newborns were operated on. Surgical wound infection was the most frequent complication (28.6%). A significantly higher risk of complications was observed in children from Pemba Island ($p = 0.046$) and those born by vaginal delivery ($p = 0.694$), particularly infections. During follow-up, 48.57% of the patients presented with infantile hydrocephalus, and in the majority of them, a ventriculoperitoneal shunt was inserted.

Proper prenatal care with early diagnosis, together with the neurosurgical and nursing standard of care in a specialized institution, are all essential to increase the chances of successful treatment of newborns harboring MMC and is one of the main goals pursued in the MMSNI, as the only referral public health center with locally trained health personnel in Zanzibar archipelago [1)].

A shortage of neurosurgeons and a lack of knowledge of neuroendoscopic management of hydrocephalus limits modern care in sub-Saharan Africa. Hence, a mobile teaching project for endoscopic third ventriculostomy (ETV) procedures and a subsequent program to develop neurosurgery as a permanent specialty in Kenya and Zanzibar were created and sponsored by the Neurosurgery Education and Development Foundation (NED) and the Foundation for International Education in Neurological Surgery. The objective of this work was to evaluate the results of surgical training and medical care in both projects from 2006 to 2013.

Two portable neuroendoscopy systems were purchased and a total of 38 ETV workshops were organized in 21 hospitals in 7 different countries. Additionally, 49 medical expeditions were dispatched to the Coast General Hospital in Mombasa, Kenya, and to the Mnazi Mmoja Hospital in Zanzibar.

From the first project, a total of 376 infants with hydrocephalus received surgery. Six-month follow-up was achieved in 22%. In those who received follow-up, ETV efficacy was 51%. The best success rates were achieved with patients 1 year of age or older with aqueductal stenosis (73%). The main causes of hydrocephalus were infection (56%) and spina bifida (23%). The mobile education program interacted with 72 local surgeons and 122 nurses who were trained in ETV procedures. The second project involved 49 volunteer neurosurgeons who performed a total of 360 nonhydrocephalus neurosurgical operations since 2009. Furthermore, an agreement with the local government was signed to create the Mnazi Mmoja NED Institute in Zanzibar.

Mobile endoscopic treatment of hydrocephalus in East Africa results in reasonable success rates and has also led to major developments in medicine, particularly in the development of neurosurgery

specialty care sites [2]

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