EPILEPSY SURGERY: WHAT CAN BE DONE IN SUB SAHARAN AFRICA (SSA) – A NEUROLOGIST’S PERSPECTIVE.

DR FIDÈLE SEBERA, NEUROLOGIST
CHIEF CONSULTANT
HOPITAL NEUROPSYCHIATRIQUE CARAES NDERA
KIGALI-RWANDA
OUTLINE OF THE PRESENTATION

1. INTRODUCTION
2. PROBLEMATIC OF EPILEPSY TREATMENT IN SSA
3. A COMPREHENSIVE NEUROSURGERY SERVICE
4. WHAT WE DO IN SSA.
5. LIMITATIONS
6. PERSPECTIVES
7. CONCLUSION
1. INTRODUCTION

• Epilepsy is a common and ubiquitous brain disorder affecting millions of people. According to the World Health Organization (WHO), 50 million people are affected worldwide.

• The prevalence of epilepsy in sub-Saharan Africa is around 15 per 1000 compared to 6 to 8 in developed countries [WHO].

• The prevalence of epilepsy in Rwanda is 49 per 1000 [Sebera and al. Epilepsy and Behaviour 2015]
1. INTRODUCTION CONT'D

• Epileptic seizures are resistant to medical treatment in 30 to 40% of cases [Foldvary Neurol Clin. 2001], leading to cognitive impairment, reduces quality of life and increases risk of death.

• Surgical treatment has been emerged in recent decades as an effective means of treatment of this condition in developed countries.

• This surgery of epilepsy remains problematic in sub-Saharan Africa.
2. PROBLEMATIC OF EPILEPSY TREATMENT IN SSA

75-80% of epileptic patients do not have adequate treatment; Several reasons can be given for this delay:

- Socio-cultural aspect; Epileptic patients consults first traditional therapists. [Maiga Y.al Sebera F. al.]
PROBLEMATIC OF EPILEPSY TREATMENT IN SSA, CONT'D

- The socio-economic aspect: Health infrastructures and qualified personnel are insufficient.

- The high cost of care compared to their income.
3. A COMPREHENSIVE EPILEPSY SURGICAL TREATMENT CENTRE (CESTC)

- Epilepsy surgery is possible in some cases of drug-resistant epilepsy and can lead to complete seizure control.

- A pre-surgical assessment is necessary to confirm the diagnosis, to locate the epileptic focus and specify the risks of surgery in terms of neurological and cognitive sequelae.
The pre-surgical assessment is carried out in the department of neurology. The purpose is to:

1. Confirm the diagnosis of focal epilepsy

2. Locate the epileptogenic zone precisely to consider a surgical procedure in a way of limiting the surgical risks.

3. Evaluate the integrated brain functions around the epileptic focus in order to assess the risk of postoperative sequelae and to define the best surgical strategy.
This assessment includes the realization of some paraclinical examinations carried out during a short hospitalization of 7 days on average.

It shall include at least:
An extended video-electroencephalogram (video-EEG) telemetry with crisis recording,

A brain MRI,

Nuclear medicine examinations (PET and SPECT).

A neuropsychological and psychiatric assessment.

Stereo-electroencephalography (in case the previous examinations remain insufficient to accurately identify the epileptic focus and/or essential functional areas.)
From the diagnosis of refractory epilepsy and medical treatment,

- By the identification of the epileptogenic focus with precision and a functional evaluation of the peri-lesion areas,

- To surgical intervention and the postoperative follow-up;

A multidisciplinary team working with synergy is needed:
The team must be composed by:

- Neurologists - Epileptologists
- Neuropathologists
- Neurosurgeons
- Neuroradiologists
- Neuropsychologists
- Neurophysiotherapists
4. WHAT IS DONE IN SSA?

- In some countries of sub-Saharan Africa where there are neurosurgeons, the only operation performed is the removal of certain tumor or infectious lesions that cause epilepsy (lesionectomy). (Sogoba Y. and al.)
- The minimum technical and human resource requirements for epilepsy surgery are available in some sub Saharan countries, notably Senegal, Côte d'Ivoire, Nigeria, South Africa,... which are major centers of medical training in SSA.
5. LIMITATIONS

- Strong culturally based anecdotal evidence that brain surgery in general is often considered as high-risk and low-benefit treatment.

- Superstitious beliefs and fear of brain surgery of epilepsy attributed to the lack of information among health care personnel about the risks and benefits of surgery.

- Insufficient human resources and lack of diagnostic tools. (Glennie N.E.; U.Kin.)
5. PERSPECTIVES

- Advocate to decision-makers in the health sectors to show the important role of surgery in the management of epilepsy.

- Strengthen south-south and north-south collaboration for capacity building in terms of human and technical resources.

- Initiate a progressive creation of comprehensive treatment centers for refractory epilepsy.
6. CONCLUSION

- Surgical treatment of epilepsy has been shown to be effective and should be performed in the early phase of the disease to avoid neuropsychological disorders, side effects of drugs or the progression of certain epileptogenic tumors.

- Awareness on the importance of this type of treatment to the decision makers in our states is important to support its implementation.
CONCLUSION CONT'D

- A collaboration south-south and north-south is more necessary than ever in sub-Saharan Africa to initiate in a short time and make our populations to benefit from these therapeutic means which continue to evolve with increasingly satisfactory results.
THANK YOU