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## Management of epilepsy in resource-limited settings: establishing an epileptic surgery program in Southern Iran

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### Abstract:

**Background:** The most common treatment modality for epileptic patients is antiepileptic drug (AED) therapy. However, more than 30% of epileptic patient suffers from drug-resistant epilepsy despite the use of appropriate AEDs. Surgery is a common option for these patients. Epilepsy surgery requires sophisticated medical technologies, many of them not available in Iran. The authors of the present study aim to report the clinical and technical issues of establishing an epilepsy surgery protocol in Iran and the limitations and recommendations for further development.

**Methods:** Medically-refractory epileptic patients underwent common imaging techniques (mainly brain MRI using a specific temporal lobe protocol) as well as continuous video EEG monitoring. A specialized committee consisting of epileptologists, neurologists, neurosurgeons and radiologists discussed the eligibility of each patient, and defining treatment plans for the surgery.

**Results:** A total of 22 committee sessions were held to discuss 140 cases with medically-refractory seizures during March 2009 to May 2012. Eighty-eight patients (62%) underwent the surgery, 35 patients (25%) were considered not appropriate for surgery, and 17 patients (12%) refused to undergo surgery. The most common cause of intractable seizures was mesial temporal sclerosis (36%), brain tumors (21%), cortical malformations (6%), and encephalomalacia (4%). Among 81 operated patients, 39.5% had anterior temporal lobectomy, 34.5% corpus callosotomy, and 30% underwent lesionectomy.

**Conclusions:** The success of epilepsy surgery depends on the accurate identification of good surgical candidates based on available resources and technologies without jeopardizing safety. The key step in establishing a successful plan is having access to trained epileptologist and neurosurgeon.

### Keywords:

*Epileptology, Epilepsy surgery, Antiepileptic drug, Surgery portocol*

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