PREVALENCE AND RISK FACTORS ASSOCIATED WITH DRUG RESISTANT EPILEPSY IN ADULT PATIENTS ATTENDING ALEXANDERIA UNIVERSITY HOSPITALS

Hazem Mohamed Marouf, Amr Mohamed El Fatatry, Dina Elsayed Gaber, Lobna Ahmed Mohamed Ahmed

Department o f Neuropsychiatry, Faculty of Medicine, University of Alexandria

INTRODUCTION

Epilepsy is a common neurological condition affecting people of all ages, gender and socioeconomic status. Once diagnosed, many patients with epilepsy can be successfully treated with anti-seizure drugs. Those who continue to have seizures despite adequate treatment with at least two anti-epileptic drugs are diagnosed as having drug resistant epilepsy according to the ILAE definition.

Management of DRE remains a challenge and requires early identification of those at risk to prevent social and health- related negative consequences of poorly controlled seizures. The exact mechanisms underpinning DRE are not completely understood and remain hypothetical. However, several factors have been correlated with the risk of evolution to DRE.

AIM OF THE WORK

The aim of this study was to:

1- Identify the prevalence of drug-resistant epilepsy in adult patients attending Alexandria university hospitals.

2- Determine different risk factors associated with drug-resistant epilepsy.

SUBJECTS AND METHODS

Subjects: Patients were recruited through hospitalization and outpatient clinics at Alexandria university hospitals over a six-month period, from March 2021 to August 2021.

Methods: An interview questionnaire was used to gather the data from each patient and the following data were obtained:

- Demographic data
- Seizure history
- History of anti-epileptic drugs (AED)
- Family history of epilepsy and consanguinity.
- History of developmental delay.
- Medical and surgical history.
- Co-morbid psychiatric conditions.
- A complete neurological examination
- All relevant investigations
- Information regarding the etiology of epilepsy
- Epilepsy syndromes
- Drug response classification

RESULTS

Table: Univariate and multivariate Logistic regression analysis for the parameters affecting drug resistant epilepsy(n = 90 vs. 142)

	Univariate		#Multivariate	
	p	OR (95%CI)	p	OR (95%CI)
Female	0.570	1.166 (0.687–1.979)		
Age (years)	0.007*	0.974 (0.955–0.993)	0.421	0.990 (0.966 – 1.014)
Age of onset (<10 years)	<0.001*	4.022 (2.152–7.517)	0.058	2.097 (0.975 – 4.509)
Epilepsy duration	0.137	1.017 (0.995–1.039)		
Focal Seizure type	0.334	1.319 (0.752–2.311)		
Initial frequency (daily/ weekly)	0.003*	2.277 (1.316–3.941)	0.683	1.293 (.377 – 4.429)
Max free period (<2 year)	<0.001*	5.501 (2.355–12.851)	<0.001*	26.738 (7.374–96.951)
History of Neonatal Seizures	0.628	1.240 (0.519–2.962)		
History of Febrile S	0.775	1.102 (0.566–2.147)		
History of SE	0.002*	2.987 (1.511–5.905)	0.331	1.697 (0.584 – 4.928)
Delayed duration until AED use	0.217	1.675 (0.739–3.800)		
Bad response to 1stAED	<0.001*	2.676 (1.554–4.609)	0.035*	4.366 (1.111 – 17.155)
History of Neurological insult	0.261	1.378 (0.787–2.413)		
Etiology				
Structural	0.024*	1.848 (1.082–3.156)	0.075	0.340 (0.104 – 1.114)
Genetic	0.600	1.186 (.628 – 2.241)		
Abnormal EEG	<0.001*	3.364 (1.913–5.916)	0.135	2.358 (0.767 – 7.252)
Abnormal Imaging findings	0.669	0.882 (0.497–1.567)		
Developmental delay	0.141	1.583 (.859 – 2.918)		
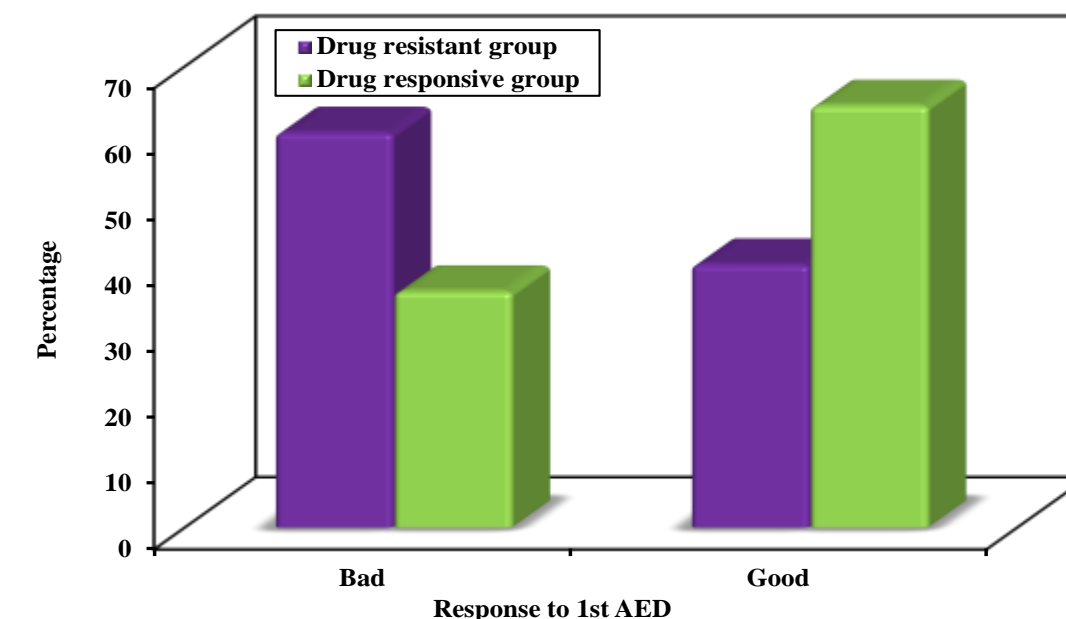
Figure : Comparison between the two studied groups according to 1st AED and response

CONCLUSION

From this study we concluded that:

- Drug resistant epilepsy is present in a significant number of patients attending tertiary referral centers.
- Clinical variables obtained from the history, examination, or investigation can be used to predict the outcome of epilepsy.
- Failure to respond to the first AED and less than 2 years duration of maximum seizure free period are two independent predictors of drug resistant epilepsy in adults.