

Table 1. Histamine or histamine receptor in clinical studies of epilepsy.

Research type	Age/year	Case	Gender	Findings	Reference
Case report	5	1 patient	Male	Administration of d-chlorpheniramine (H1R antagonist) increases the number of epileptic discharges in EEG.	(Yokoyama, Iinuma, Yanai, Watanabe, Sakurai & Onodera, 1993)
Case report	0.33 and 0.41	2 patients	Male	After the application of ketotifen (H1R antagonist), the patients develop tonic spasms.	(Yasuhara, Ochi, Harada & Kobayashi, 1998)
Case report	65	1 patient	Female	The patient treated with famotidine (H2R antagonist) for gastric pain, presents manic symptoms and develops two generalized seizures.	(von Einsiedel, Roesch-Ely, Diebold, Sartor, Mundt & Bergemann, 2002)
Case report	0.33	1 patient	Boy	Overdose of ketotifen (H1R antagonist) leads to toxic encephalopathy followed by localization-related epilepsy and mild mental retardation.	(Yokoyama, Hirose, Uematsu, Haginoya, Iinuma & Kimura, 2012)
Clinical observations	2.36±1.55	250 patients	Boys and girls	Antihistamine shortens the time from fever detection to seizure onset and prolongs the duration of seizures.	(Zolaly, 2012)
Clinical observations	9.3	4 children	Boys and girls	Desloratadine induces seizure.	(Cerminara, El-Malhany, Roberto, Lo Castro & Curatolo, 2013)
Autopsy	27.6±6.4	10 patients	Male and	Patients with MTLE show a reduction in the H3R function in	(Bañuelos-Cabrera

report			female	hippocampus, and high efficacy of H3RsGai/o protein activation with low tissue contents of histamine in temporal cortex.	et al., 2016)
Observational cohort study	20-84	8605 seizure patients, 40000 controls	Male and female	The use of H2R antagonists is not associated with an increased risk of seizures in the overall population or in the cohorts stratified by epilepsy status.	(Sáez, González-Pérez, Gaist, Johansson, Nagy & García Rodríguez, 2016)
Case report	17	1 patient	Male	Overdose taking diphenhydramine (H1R antagonist) develops generalized tonic-clonic seizures and dysrhythmias.	(Labarinas, Meulmester, Greene, Thomas, Virk & Erkonen, 2018)