

**Table e-1. Probability of stopping seizures (SS) by different rescue medications. If the population was mixed we only analyzed the patients with convulsive SE that received only benzodiazepines before the second-line non-BZD AED.**

| Author and year (N = Number of SE episodes)                        | Setting and timeline                    | Type of study and level of evidence | Age of the patients (in years) | Dose        | Definition of SE  | Definition of seizures/SE stop  | Probability of stopping prolonged seizures/SE          | Additional details  |
|--|---|-------------------------------------|--------------------------------|-------------|---|---|--|---|
| <b>PHENYTOIN</b>   |   |                                     |                                |             |   |   |  |   |
| <b>Brevoord et al, 2005</b> <sup>33</sup><br>(N = 64)              | Rotterdam, The Netherlands<br>1995-2001 | Retrospective study                 | Median (range): 2 (0.04-16.45) | 20 mg/Kg    | Single seizure lasting more than 30 min or multiple seizures relapsing within 30 min without recovery of consciousness between each seizure. Patients refractory to benzodiazepine (iv or rectal midazolam sometimes preceded by rectal diazepam) | No clinical evidence of seizures during at least 30 min   | 19/64 (0.2969)   | 76% of patients were younger than 5yo   |
| <b>Agarwal et al, 2007</b> <sup>28</sup><br>(N = 50)               | Kanpur, India<br>2004-2006              | Randomized prospective study        | Mean $\pm$ SD<br>27 $\pm$ 15.1 | 20mg/Kg     | Continuous or repeated seizure activity for more than 5 minutes without recovery of consciousness. Patients refractory to IV diazepam   | All motor or EEG seizure activity ceased $\leq$ 20 min from beginning of infusion and no return of seizure activity for 12h | 42/50 (0.84)<br><br>Among patients <18yo: 12/16 (0.75) | 48% of patients had SE for >2h on presentation<br>16 episodes in patients younger than 18yo |
| <b>Tiamkao &amp; Sawanyawisuth, 2009</b> <sup>23</sup><br>(N = 37) | Khon Kaen, Thailand<br>2005-2007        | Retrospective analysis              | Adults $\geq$ 15yo             | 15-20 mg/Kg | $\geq$ 2 generalized convulsions without full recovery of consciousness between seizures or continuous convulsive activity for more than  | Seizure control that ceased within 30 minutes after the medication with no additional antiepileptic medication              | 17/37 (0.4595)   |   |

|  |   |   |   |                                  |  |   |                   |   |
|--|---|---|---|----------------------------------|--|---|-------------------|---|
|  |   |   |   |                                  | 10 min<br>Refractory<br>to iv<br>diazepam  | required<br>for at least<br>24 hours<br>after<br>seizure<br>cessation   |                   |   |
| <b>Alvarez et al, 2011</b> <sup>24</sup><br>(N = 70) | Lausanne<br>,<br>Switzerla<br>nd<br>2006-<br>2010 | Retrospec<br>tive<br>analysis<br>of a<br>prospectiv<br>e registry | Mean $\pm$ SD<br>57.8 $\pm$ 18.1  | 20 mg/Kg                         | Continuous<br>occurrence<br>of seizures<br>for >5 min<br>or repeated<br>epileptic<br>seizures<br>without<br>intercurrent<br>baseline<br>recovery<br>Patients<br>refractory to<br>IV<br>benzodiazep<br>ine<br>(clonazepa<br>m or<br>lorazepam)                                  | No need<br>for another<br>AED<br>medication<br>to control<br>SE         | 41/70<br>(0.5857) | Excluded<br>patients<br>with<br>postanoxic<br>SE and<br>patients<br><16yo |
| <b>Ismail et al, 2012</b> <sup>34</sup><br>(N = 34)  | Montreal,<br>Canada<br>2002-<br>2007              | Retrospec<br>tive study   | Mean $\pm$ SD<br>1.8 $\pm$ 0.4 in<br>episode<br>with<br>response to<br>PHT<br>1.9 $\pm$ 0.3 in<br>episodes<br>with no<br>response to<br>PHT | 15 mg/Kg                         | Febrile<br>seizure<br>lasting more<br>than 15 min<br>or $\geq$ 2 febrile<br>seizures<br>without<br>return to<br>normal state<br>of<br>consciousne<br>ss between<br>the<br>episodes.<br>Refractory<br>to<br>benzodiazep<br>ines<br>(diazepam,<br>lorazepam,<br>or<br>midazolam) | Ending<br>clinical<br>seizures<br>before the<br>end of the<br>perfusion | 9/34<br>(0.2647)  | Only febrile<br>SE  |
| <b>Tiamkao et al, 2013</b> <sup>25</sup><br>(N = 37) | Khon<br>Kaen,<br>Thailand<br>2003-<br>2010        | Retrospec<br>tive study   | Median<br>(range) =<br>40 (16-85)   | Mean $\pm$ SD<br>743 (116)<br>mg | >5 min<br>seizures or<br>repeated<br>seizures<br>with no<br>regain of<br>consciousne<br>ss between<br>seizures<br>Refractory<br>to iv DZP<br>10mg  | No clinical<br>evidence<br>of seizures                                  | 8/37<br>(0.2162)  |   |
| <b>Chitsaz et al, 2013</b> <sup>26</sup><br>(N = 15) | Isfahan,<br>Iran<br>2009-                         | Randomiz<br>ed<br>prospectiv                                      | Mean (SD)<br>= 45.5 $\pm$<br>20.4   | 20 mg/Kg                         | >5 min<br>seizures or<br>repeated  | Response<br>to<br>treatment   | 9/15 (0.6)        |   |

|   |   |   |                         |          |   |  |                |   |
|---|---|---|-------------------------|----------|---|--|----------------|---|
|   | 2010                                      | e study                                 |                         |          | seizures with no regain of consciousness between seizures<br>Refractory to 2 doses of iv DZP 0.15 mg/Kg   | within 12 hours  |                |   |
| <b>Chakravarthi et al, 2015</b> <sup>35</sup><br>(N = 22) | Chandigarh, India<br>2012-2013            | Prospective randomized open label study | Mean (SD) = 31.8 ± 12.7 | 20 mg/Kg | Continuous generalized convulsive seizure > 5 min or ≥ 2 seizures during which the patient does not regain normal sensorium<br>Refractory to iv LZP | Clinical termination of seizure activity within 30 min of AED initiation   | 15/22 (0.6818) | 21 generalized convulsive SE, 1 focal convulsive SE |
| <b>Mundlarmuri et al, 2015</b> <sup>27</sup><br>(N = 50)  | Bangalore, India<br>2010-2013             | Prospective randomized study            | Mean (SD) = 33.2 ± 13.4 | 20 mg/Kg | Continuous generalized seizures ≥ 10 min or ≥ 2 seizures without complete recovery of consciousness in between<br>Refractory to iv LZP 4-6mg        | No recurrence of seizures after 30 min of completion of AED infusion with substantial improvement in sensorium over next 24 hours or sensorium did not improve substantially, but EEG excluded non-convulsive SE | 34/50 (0.68)   |   |
| <b>Gujjar et al, 2017</b> <sup>36</sup><br>(N = 30)       | Muscat, Oman<br>Time period not specified | Prospective study, open label           | Mean ± SD 37 ± 19       | 20 m/Kg  | Generalized tonic-clonic seizures > 5 min or recurrent generalized tonic-clonic seizures with no regaining of consciousness between                 | Cessation of clinical seizures, improvement in mental status, and no recurrence of seizures over 24h   | 21/30 (0.7)    |   |

|   |                                 |                              |  |                                       |  |   |                |   |
|---|---------------------------------|------------------------------|--|---------------------------------------|--|---|----------------|---|
|   |                                 |                              |  |                                       | attacks or partial seizures > 10 min<br>Refractory to initial benzodiazepine (LZP 4mg or DZP 5-10mg)   |   |                |   |
| <b>PHENOBARBITAL</b>                                  |                                 |                              |  |                                       |  |   |                |   |
| <b>Malamiri et al, 2012</b> <sup>37</sup><br>(N = 30) | Theran, Iran<br>2008-2010       | Prospective randomized study | Median (range) 4 (3-11)  | 20 mg/Kg                              | Continuous generalized convulsive seizure lasting longer than 5 min<br>No response to iv diazepam within 5 min                                 | Termination of all convulsive activity within 20 minutes of initiation without respiratory depression or hypotension and without another convulsion within 1h | 23/30 (0.7667) | Pediatric patients ≥2yo   |
| <b>Su et al, 2016</b> <sup>38</sup><br>(N = 37)       | Beijing, China<br>2011-2015     | Prospective randomized study | Mean (SD) = 37.1 ± 15  | 20 mg/Kg                              | ≥5 min of continuous clinical and/or electrographic seizure activity without recovery between seizures. Refractory to 2 doses of DZP 0.2 mg/Kg | Cessation of clinical and EEG seizure activity within 20 min of AED administration  | 30/37 (0.8108) | All cases were generalized convulsive SE  |
| <b>Lee et al, 2016</b> <sup>39</sup><br>(N = 10)      | Seoul, South Korea<br>2008-2013 | Retrospective study          | Median (range) 1.2 (0.08-13.9) in the 50 patients with SE or acute repetitive seizures | Median (range): 20mg/Kg (10-20) mg/Kg | ≥5 min of continuous seizure activity or recurrent seizures without recovery of consciousness within 30 min<br>Refractory to benzodiazepines   | Clinical seizure cessation within 30 minutes of completion of the infusion without recurrence during the following 24 hours                                   | 10/10 (1)      | Excluded 40 patients with acute repetitive seizures with return to consciousness between episodes |
| <b>VALPROATE</b>                                      |                                 |                              |  |                                       |  |   |                |   |
| <b>Yu et al, 2003</b> <sup>40</sup><br>(N = 15)       | Los Angeles, California         | Retrospective study          | Mean (range) 7.5 (0.08-  | 25 mg/Kg                              | Status epilepticus not further   | Seizures stopped within 20  | 15/15 (1)      | Excluded 22 patients with   |

|  |  |  |  |                |  |   |   |   |
|--|--|--|--|----------------|--|---|---|---|
|  | a<br>Time<br>period<br>not<br>specified  |  | 19)<br>[among the<br>40 patients<br>in the<br>study] |                | specified<br>Refractory<br>to<br>lorazepam   | minutes of<br>end of<br>infusion  |   | breakthrough<br>seizures<br>secondary<br>to<br>subtherapeutic<br>VPA<br>levels and 3<br>patients<br>with SE<br>who<br>received<br>PHT, PB, or<br>both before<br>VPA |
| <b>Agarwal et al, 2007</b> <sup>28</sup><br>(N = 50)               | Emergency room<br>and ICU<br>in<br>Kanpur,<br>India<br>from<br>2004 to<br>2006 | Randomized<br>prospective<br>study                           | Mean (SD)<br>= 27.4 ±<br>16.8                        | 20mg/Kg        | Continuous<br>or repeated<br>seizure<br>activity for<br>more than 5<br>minutes<br>without<br>recovery of<br>consciousness.<br>Patients<br>refractory to<br>IV<br>diazepam  | All motor<br>or EEG<br>seizure<br>activity<br>ceased<br>≤20 min<br>from<br>beginning<br>of infusion<br>and no<br>return of<br>seizure<br>activity for<br>12h  | 44/50<br>(0.88)<br><br>Among<br>patients<br><18yo:<br>20/22<br>(0.9091) | 40% of<br>patients had<br>SE for >2h<br>on<br>presentation<br>22 episodes<br>in patients<br>younger<br>than 18yo  |
| <b>Olsen et al, 2007</b> <sup>41</sup><br>(N = 37)                 | Oslo,<br>Norway<br>After<br>2003   | Prospective<br>registry                                      | Median<br>(range): 45<br>(20-89)                     | 25 mg/Kg       | Ongoing<br>epileptic<br>activity for<br>a minimum<br>of 5 min or<br>repeated<br>epileptic<br>seizures<br>Refractory<br>to diazepam   | Seizure<br>control at<br>the end of<br>the bolus<br>dose  | 27/37<br>(0.7297)   | Excluded 4<br>patients<br>who<br>received a<br>bolus of iv<br>propofol or<br>iv<br>barbiturate<br>before<br>valproate   |
| <b>Tiamkao &amp; Sawanyawisuth, 2009</b> <sup>23</sup><br>(N = 12) | Khon<br>Kaen,<br>Thailand<br>2005-<br>2007                                     | Retrospective<br>study                                       | Adults<br>≥15yo                                      | 15-25<br>mg/Kg | ≥2<br>generalized<br>convulsions<br>without full<br>recovery of<br>consciousness<br>between<br>seizures or<br>continuous<br>convulsive<br>activity for<br>more than<br>10 min<br>Refractory<br>to iv<br>diazepam | Seizure<br>control<br>that ceased<br>within 30<br>minutes<br>after the<br>medication<br>with no<br>additional<br>antiepileptic<br>medication<br>required<br>for at least<br>24 hours<br>after<br>seizure<br>cessation | 9/12 (0.75)   |   |
| <b>Alvarez et al, 2011</b> <sup>24</sup><br>(N = 59)               | Lausanne<br>,<br>Switzerland<br>2006-<br>2010                                  | Retrospective<br>analysis<br>of a<br>prospective<br>registry | Mean ± SD<br>64 ± 18.9                               | 20 mg/Kg       | Continuous<br>occurrence<br>of seizures<br>for >5 min<br>or repeated<br>epileptic  | No need<br>for another<br>AED<br>medication<br>to control<br>SE   | 44/59<br>(0.7458)   | Excluded<br>patients<br>with<br>postanoxic<br>SE and<br>patients  |

|   |                                  |   |                                  |                                |   |   |                |  |
|---|----------------------------------|---|----------------------------------|--------------------------------|---|---|----------------|--|
|   |                                  |   |                                  |                                | seizures without intercurrent baseline recovery Patients refractory to IV benzodiazepine (clonazepam or lorazepam)  |   |                | <16yo  |
| <b>Chen et al, 2011</b> <sup>42</sup><br>(N = 30)     | Beijing, China<br>2007-2010      | Prospective open-label randomized study | Mean $\pm$ SD<br>40.8 $\pm$ 23.2 | 30 mg/Kg                       | $\geq$ 5 min of continuous seizures or $\geq$ 2 seizures between which there is incomplete recovery of consciousness Refractory to 2 doses of DZP iv 0.2mg/Kg | Control of clinical and EEG seizures within one hour of medication and no recurrence in 6 hours   | 15/30 (0.5)    | Viral encephalitis as cause of SE in 40% of patients |
| <b>Malamiri et al, 2012</b> <sup>37</sup><br>(N = 30) | Theran, Iran<br>2008-2010        | Prospective randomized study            | Median (range) 5 (3-16)          | 20 mg/Kg                       | Continuous generalized convulsive seizure lasting longer than 5 min No response to iv diazepam within 5 min   | Termination of all convulsive activity within 20 minutes of initiation without respiratory depression or hypotension and without another convulsion within 1h | 27/30 (0.9)    | Pediatric patients $\geq$ 2yo                        |
| <b>Tiamkao et al, 2013</b> <sup>25</sup><br>(N = 17)  | Khon Kaen, Thailand<br>2003-2010 | Retrospective study                     | Median (range) = 42 (16-76)      | Mean $\pm$ SD<br>1000 (239) mg | >5 min seizures or repeated seizures with no regain of consciousness between seizures Refractory to iv DZP 10mg   | No clinical evidence of seizures  | 8/17 (0.4706)  |  |
| <b>Chitsaz et al, 2013</b> <sup>26</sup><br>(N = 15)  | Isfahan, Iran<br>2009-2010       | Randomized prospective study            | Mean (SD) = 47.4 $\pm$ 14        | 20 mg/Kg                       | >5 min seizures or repeated seizures with no  | Response to treatment within 12 hours   | 11/15 (0.7333) |  |

|   |                               |   |                            |          |   |  |                |  |
|---|-------------------------------|---|----------------------------|----------|---|--|----------------|--|
|   |                               |   |                            |          | regain of consciousness between seizures<br>Refractory to 2 doses of iv DZP 0.15 mg/Kg  |  |                |  |
| <b>Mundlarmuri et al, 2015<sup>27</sup></b><br>(N = 50) | Bangalore, India<br>2010-2013 | Prospective randomized study            | Mean (SD) = 33.1 ± 12      | 30 mg/Kg | Continuous generalized seizures ≥ 10 min or ≥ 2 seizures without complete recovery of consciousness in between<br>Refractory to iv LZP 4-6mg      | No recurrence of seizures after 30 min of completion of AED infusion with substantial improvement in sensorium over next 24 hours or sensorium did not improve substantially, but EEG excluded non-convulsive SE | 34/50 (0.68)   |  |
| <b>Su et al, 2016<sup>38</sup></b><br>(N = 36)          | Beijing, China<br>2011-2015   | Prospective randomized study            | Mean (SD) = 45.3 ± 18.1    | 30 mg/Kg | ≥5 min of continuous clinical and/or electrographic seizure activity without recovery between seizures.<br>Refractory to 2 doses of DZP 0.2 mg/Kg | Cessation of clinical and EEG seizure activity within 20 min of AED administration   | 16/36 (0.4444) | All cases were generalized convulsive SE |
| <b>Misra et al, 2017<sup>43</sup></b><br>(N = 33)       | Lucknow, India<br>2013-2016   | Prospective randomized open-label study | Median (range): 40 (18-85) | 30 mg/Kg | ≥5 min of continuous convulsions or ≥ 2 convulsive seizures without full recovery.<br>Refractory to 2 doses of IV LZP 4mg                         | Seizure cessation for 1 hour after the infusion of the study drug  | 23/33 (0.6970) | Exclusion of non-convulsive SE           |
| <b>LEVETIRACETAM</b>                                    |                               |   |                            |          |   |  |                |  |

|  |  |                     |  |   |  |   |  |  |
|--|--|---------------------|--|---|--|---|--|--|
| <b>Knake et al, 2008</b> <sup>44</sup><br>(N = 13)   | Marburg, Germany<br>2006-2007                                  | Retrospective study | Median (range) 67 (35-90)  | Mean $\pm$ SD loading dose: 846 $\pm$ 415 mg<br><br>Mean $\pm$ SD maintenance dose over 24h: 2154 $\pm$ 1505 mg | $\geq 30$ min of continuous seizure activity or a series of seizures without return to full consciousness between seizures $\geq 30$ min   | No need for other AEDs  | 11/13 (0.8462)   | Focal SE<br>Patients did not receive PHT because of liver failure, elevated liver enzymes, cardiac arrhythmia, or comedication   |
| <b>Berning et al, 2009</b> <sup>45</sup><br>(N = 28) | Northern Germany (Osnabrück, Rotenburg, and Kiel)<br>2007-2008 | Retrospective study | Median ( $p_{25}$ - $p_{75}$ ): 78 (68.3-84.5) low initial benzodiazepine<br>Median ( $p_{25}$ - $p_{75}$ ): 68 (53-76.3) medium-high initial benzodiazepine | 1000mg-3000mg   | Convulsive seizures lasting at least 5 min or recurrent seizures without regaining full consciousness or partial seizures lasting at least 20 min.<br>Low initial benzodiazepine: Not more than 2mg of LZP or a comparable dose of benzodiazepine.<br>Medium-high initial benzodiazepine: Appropriate initial dose of benzodiazepine | Cessation of SE as shown by neurologic examination, EEG, or both. SE controlled within 30 minutes of LEV initiation | 10/28 (0.3571)<br>3/8 (0.375) low initial benzodiazepine<br>7/20 (0.35) medium-high initial benzodiazepine                 | Semiology: 4 convulsive generalized, 6 subtle SE, 12 complex focal, 6 simple focal<br>Semiology low initial benzodiazepine: 1 convulsive generalized, 1 subtle SE, 6 complex focal<br>Semiology medium-high initial benzodiazepine: 3 convulsive generalized, 5 subtle SE, 6 complex focal, 6 simple focal |
| <b>Eue et al, 2009</b> <sup>46</sup><br>(N = 33)     | Bernburg, Germany<br>2006-2008                                 | Prospective study   | Mean (range) 67 (43-92) for the whole population of 43 patients with convulsive and non-convulsive SE  | 1000mg  | Generalized convulsive SE $\geq 5$ min or simple, complex focal, myoclonic, and SE $\geq 30$ min.<br>No response to benzodiazepines (lorazepam   | Cessation of clinical seizures within 3 min of LEV administration   | 16/33 (0.4849)<br>0/8 (0) in generalized tonic-clonic SE<br>11/18 (0.6111) in complex partial<br>3/5 (0.6) in simple focal | Semiology: 8 generalized tonic-clonic, 18 convulsive complex focal, 5 simple focal, 2 myoclonic<br>Excluded patients with  |



|  |  |  |                                  |  |  |   |                         |  |
|--|--|--|----------------------------------|--|--|---|-------------------------|--|
|  |  |  |                                  |  | 2-6mg or diazepam 5-10mg)  |   | 2/2 (1) in myoclonic SE | nonconvulsive SE and subtle SE   |
| <b>Gámez-Leyva et al, 2009</b> <sup>47</sup><br>(N = 16) | Salamanca and Santander, Spain 2007-2008 | Retrospective study                              | Median (p25-p75): 77 (64.8-84.8) | 1000 mg in the full cohort of 34 patients  | ≥30 min of continuous seizures or a series of seizures without return to full consciousness for at least 30 min and/or confirmation of SE on EEG<br>Refractory to 20mg of iv DZP         | No seizures within, at most, 8h after iv LEV, no other AED needed, and no recurrence of SE during the hospital stay | 10/16 (0.625)           | 7 partial secondarily generalized SE, 5 partial motor SE, 3 complex partial SE, 1 primary generalized SE. Excluded patients who received iv PHT or iv VPA before LEV. Considered a threshold for response of 8h since iv LEV |
| <b>Alvarez et al, 2011</b> <sup>24</sup><br>(N = 58)     | Lausanne, Switzerland 2006-2010          | Retrospective analysis of a prospective registry | Mean ± SD 66.1 ± 14.9            | 20 mg/Kg   | Continuous occurrence of seizures for >5 min or repeated epileptic seizures without intercurrent baseline recovery<br>Patients refractory to IV benzodiazepine (clonazepam or lorazepam) | No need for another AED medication to control SE  | 30/58 (0.5172)          | Excluded patients with postanoxic SE and patients <16yo  |
| <b>Standish et al, 2011</b> <sup>48</sup><br>(N = 9)     | Wilmington, DE 2007-2008                 | Retrospective study                              | Median (p25-p75): 4 (2-8)        | Median (range): 33.3 (16-98.8) mg/Kg in the 20 patients where LEV was used not as second-line after initial benzodiazepine | Clinical diagnosis of SE. Refractory to initial benzodiazepine (LZP, MDZ, or DZP)  | No need for another AED to control SE   | 9/9 (1)                 | Excluded patients where LEV was used as first line without prior benzodiazepine or after use of other non-benzodiazepine AED   |
| <b>Atmaca et al, 2015</b> <sup>49</sup><br>(N = 10)      | Istanbul, Turkey 2010-2013               | Prospective study                                | Median (p25-p75): 51 (45.8-52.8) | Median (p25-p75): 2000 (2000-  | Convulsive SE ≥ 5 min<br>Refractory to   | Cessation of clinical seizures  | 7/10 (0.7)              | Excluded patients with non-convulsive  |

|   |                                   |   |  |                                       |   |  |                   |   |
|---|-----------------------------------|---|--|---------------------------------------|---|--|-------------------|---|
|   |                                   |   |  | 3000) mg                              | benzodiazepine  |  |                   | SE and epilepsy partialis continua  |
| <b>Chakravarthi et al, 2015</b> <sup>35</sup><br>(N = 22) | Chandigarh, India<br>2012-2013    | Prospective randomized open label study | Mean (SD) = 39 ± 18.4  | 20 mg/Kg                              | Continuous generalized convulsive seizure > 5 min or ≥ 2 seizures during which the patient does not regain normal sensorium<br>Refractory to iv LZP | Clinical termination of seizure activity within 30 min of AED initiation   | 13/22<br>(0.5909) | 20 generalized convulsive SE, 2 focal convulsive SE   |
| <b>Mundlarmuri et al, 2015</b> <sup>27</sup><br>(N = 50)  | PHT Bangalore, India<br>2010-2013 | Prospective randomized study            | Mean (SD) = 34.8 ± 13.6  | 25 mg/Kg                              | Continuous generalized seizures ≥ 10 min or ≥ 2 seizures without complete recovery of consciousness in between<br>Refractory to iv LZP 4-6mg        | No recurrence of seizures after 30 min of completion of AED infusion with substantial improvement in sensorium over next 24 hours or sensorium did not improve substantially, but EEG excluded non-convulsive SE | 39/50<br>(0.78)   |   |
| <b>Lee et al, 2016</b> <sup>39</sup><br>(N = 12)          | Seoul, South Korea<br>2008-2013   | Retrospective study                     | Median (range) 1.7 (0.17-14.4) in the 38 patients with SE or acute repetitive seizures | Median (range): 30mg/Kg (20-30) mg/Kg | ≥5 min of continuous seizure activity or recurrent seizures without recovery of consciousness within 30 min<br>Refractory to benzodiazepines        | Clinical seizure cessation within 30 minutes of completion of the infusion without recurrence during the following 24 hours  | 4/12<br>(0.3333)  | Excluded 26 patients with acute repetitive seizures with return to consciousness between episodes |
| <b>Gujjar et al, 2017</b> <sup>36</sup><br>(N = 22)       | Muscat, Oman<br>Time              | Prospective study, open label           | Mean ± SD 38 ± 19  | 30 mg/Kg                              | Generalized tonic-clonic seizures > 5   | Cessation of clinical seizures,  | 18/22<br>(0.8182) |   |

|  |                                  |   |                            |        |   |  |                |  |
|--|----------------------------------|---|----------------------------|--------|---|--|----------------|--|
|  | period not specified             |   |                            |        | min or recurrent generalized tonic-clonic seizures with no regaining of consciousness between attacks or partial seizures > 10 min Refractory to initial benzodiazepine (LZP 4mg or DZP 5-10mg) | improvement in mental status, and no recurrence of seizures over 24h |                |  |
| <b>LACOSAMIDE</b>                              |                                  |   |                            |        |   |  |                |  |
| <b>d'Orsi et al, 2016<sup>50</sup> (N = 9)</b> | Foggia and Rome, Italy 2011-2015 | Prospective observational study         | Mean (range): 60 (45-85)   | 200 mg | Convulsive SE that did not respond to benzodiazepines (IV DZP)  | Cessation of SE within 20 min and without other AED administered     | 7/9 (0.7778)   |  |
| <b>Misra et al, 2017<sup>43</sup> (N = 33)</b> | Lucknow, India 2013-2016         | Prospective randomized open-label study | Median (range): 40 (18-90) | 400 mg | ≥5 min of continuous convulsions or ≥ 2 convulsive seizures without full recovery. Refractory to 2 doses of IV LZP 4mg  | Seizure cessation for 1 hour after the infusion of the study drug    | 21/33 (0.6364) |  |

**Legend:** AEDs: Antiepileptic drugs. DZP: Diazepam. EEG: Electroencephalogram. h: Hours. ICU: Intensive care unit. h: hours. IV: Intravenous. LAC: Lacosamide. LEV: Levetiracetam. LZP: Lorazepam. MDZ: Midazolam. min: Minutes. p<sub>25</sub>-p<sub>75</sub>: 25<sup>th</sup>-75<sup>th</sup> quartile. PB: Phenobarbital. PHT: Phenytoin. SD: Standard deviation. SE: Status epilepticus. VPA: Valproate. yo: Year-old.

REFER TO THE ARTICLE FOR THE REFERENCE LIST