Quando non intubare un bambino con crisi epilettica convulsiva?

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DEFINIZIONE DI STATO EPILETTICO

- Quella condizione in cui un’unica crisi o più crisi epilettiche si susseguono per oltre 30 minuti senza recupero della funzione/coscienza.

International League Against Epilepsy (Commission on epidemiology and Prognosis, International League Against Epilepsy, 1993) e l’Epilepsy Foundation of America (Epilepsy Foundation of America's Working Group on Status Epilepticus 1993)

STATO EPILETTICO...FASI TEMPORALI

A) **SE iniziale** (primi 20-30 minuti, SE incipiente 0-5 minuti);

B) **SE definito** (dopo 20-30 minuti e fino a 60-90 minuti);

C) **SE refrattario** (dopo 60-90 minuti), fallimento terapeutico di 2-3 farmaci;

(*Lothman,1990*)

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Treatment of convulsive status epilepticus in childhood: Recommendations of the Italian League Against Epilepsy

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MANAGEMENT OF SE IN THE HOSPITAL SETTING

General measures

Assessment and stabilization of vital functions in the ABC sequence:

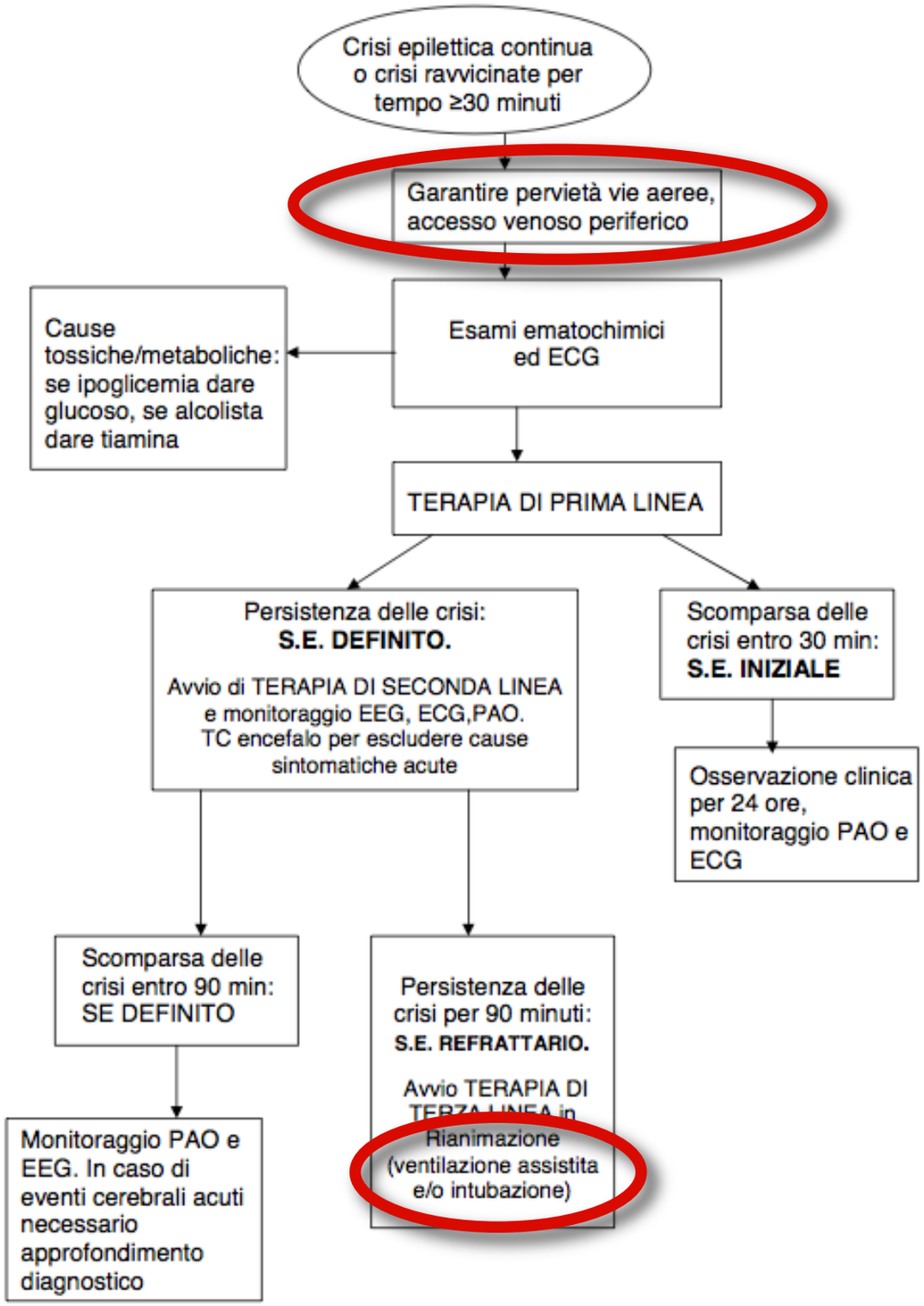
Airway

1 Establish and maintain airway patency;
2 Position the head (if trauma jaw thrust);
3 Aspirate secretions/vomit (mouth-to-nose);
4 Insert oropharyngeal airway tube, in special situations;
5 Ensure a patent airway and administer oxygen (O_2).

Breathing

1 Ensure effective ventilation;
2 Administer O_2;
3 If spontaneous ventilation is ineffective, consider ventilation with Ambu (after positioning nasogastric tube) if necessary;
4 If ventilation with Ambu is ineffective, consider intubation (to protect the airway, ensure adequate ventilation and oxygenation).

Fig. 7.4. Algoritmo diagnostico-terapeutico per lo stato di male.



Pediatr Neurol. 2008 Jun;38(6):377-90. doi: 10.1016/j.pediatrneurol.2008.01.001.

Treatment of refractory status epilepticus: literature review and a proposed protocol.

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Abstract

Refractory status epilepticus describes continuing seizures despite adequate initial pharmacologic treatment. This situation is common in children, but few data are available to guide management. We review the literature related to the pharmacologic treatment and overall management of refractory status epilepticus, including midazolam, pentobarbital, phenobarbital, propofol, inhaled anesthetics, ketamine, valproic acid, topiramate, levetiracetam, pyridoxine, corticosteroids, the ketogenic diet, and electroconvulsive therapy. Based on the available data, we present a sample treatment algorithm that emphasizes the need for rapid therapeutic intervention, employs consecutive medications with different mechanisms of action, and attempts to minimize the risk of hypotension. The initial steps suggest using benzodiazepines and phenytoin. Second steps suggest using levetiracetam or valproic acid, which exert few hemodynamic adverse effects and have multiple mechanisms of action. Additional management strategies that could be employed in tertiary-care settings, such as coma induction guided by continuous electroencephalogram monitoring and surgical options, are also discussed.

Semin Pediatr Neurol. 2010 Sep;17(3):190-4. doi: 10.1016/j.spen.2010.06.007.

Treatment of refractory convulsive status epilepticus in children: other therapies.

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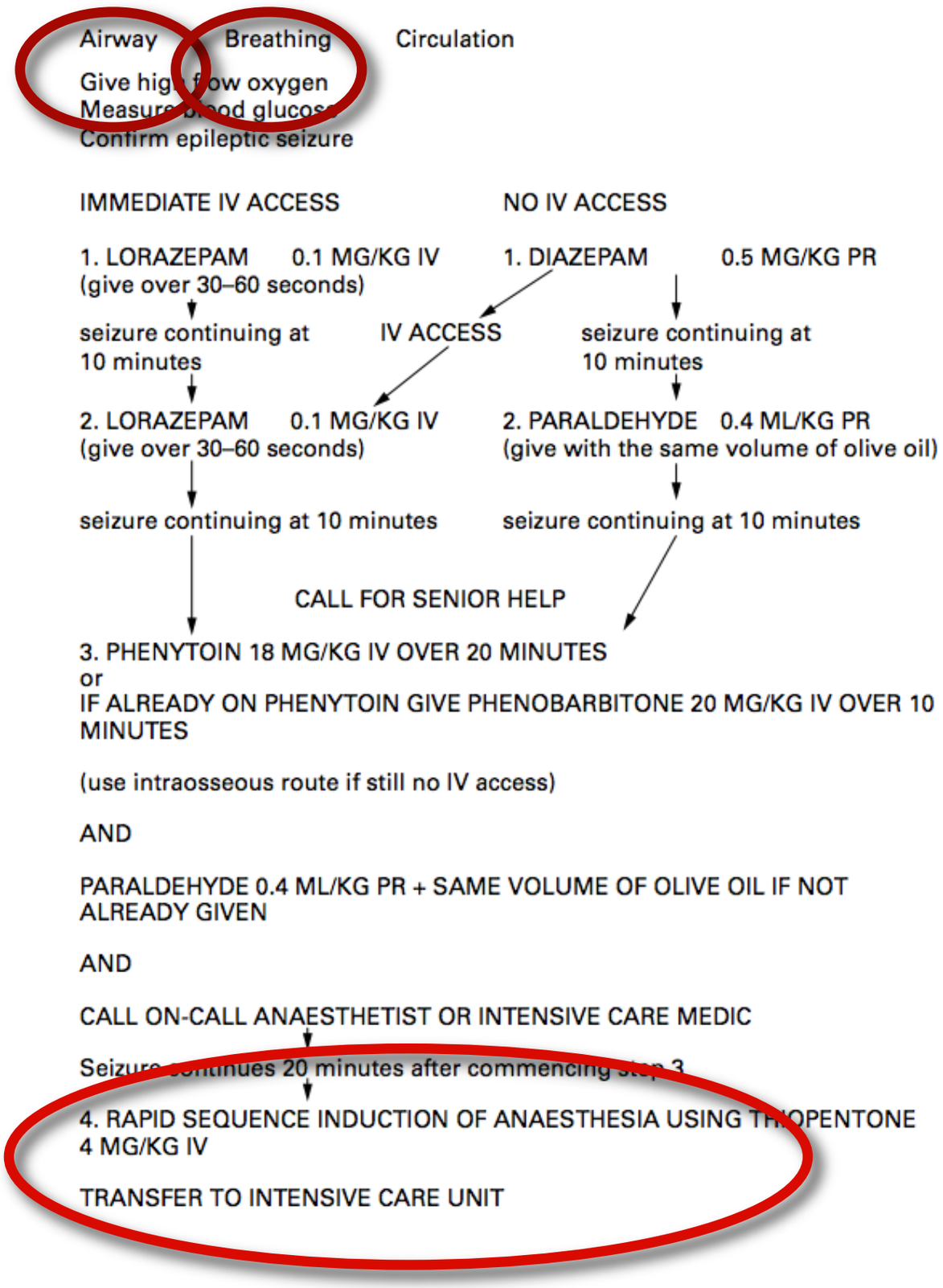
Abstract

Refractory convulsive status epilepticus occurs when seizures are not controlled with initial benzodiazepine therapy or a subsequent anticonvulsant drug. Typically drug-induced anesthesia is then pursued with midazolam or a barbiturate. This results in prolonged, intensive care, which requires meticulous attention to medical management to minimize complications. When seizures persist other options must be considered. These include (1) other medications, (2) surgery, (3) the ketogenic diet, (4) hypothermia, (5) inhalational anesthetic agents, and (6) immune modulating therapy. This review addresses the literature related to the use of the latter (4) treatment options. I will discuss the role of each treatment and review the evidence for it's use, along with possible side-effects.

PMID: 20727489 [PubMed - indexed for MEDLINE]



Arch Dis Child. 2000 Nov;83(5):415-9.

The treatment of convulsive status epilepticus in children. The Status Epilepticus Working Party, Members of the Status Epilepticus Working Party.

Appleton R, Choonara I, Martland T, Phillips B, Scott R, Whitehouse W.
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Abstract
There is currently little agreement between hospital protocols when treating convulsive status epilepticus in children, and a working party has been set up to produce a national evidence based guideline for treating this condition. This four step guideline is presented in this paper. Its effectiveness will be highlighted and its use audited in a number of centres.

PMID: 11040151 [PubMed - indexed for MEDLINE] PMCID: PMC1718534 Free PMC Article

Rev Neurol (Paris). 2009 Apr;165(4):390-7. doi: 10.1016/j.neurol.2008.11.009. Epub 2009 Mar 4.

[Management of convulsive status epilepticus in infants and children].

[Article in French]

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Abstract

Convulsive status epilepticus in childhood is a life threatening condition with serious risk of neurological sequelae which constitutes a medical emergency. Clinical and experimental data suggest that prolonged seizures can have immediate and long-term adverse consequences on the immature and developing brain. So the child who presents with a continuous generalized convulsive seizure lasting greater than five minutes should be promptly treated. The outcome is mainly determined by the underlying etiology, age and duration of status epilepticus. In children the mortality from status epilepticus ranges from 3 to 5% and the morbidity is two-fold higher. Mortality and morbidity are highest with status epilepticus associated with central nervous system infections, which is the most important cause of status epilepticus. There are few evidence-based data to guide management decisions for the child with status epilepticus. Immediate goals are stabilization of airways, breathing and circulation and termination of seizures. Benzodiazepines remain the first-line drugs recommended for prompt termination of seizures. As intravenous lorazepam is not available in France, we suggest clonazepam as the best choice for initial therapy. Rectal diazepam or buccal midazolam remain important options. Intravenous phenytoin/fosphenytoin and phenobarbital are the second-line drugs. Phenytoin is being increasingly substituted by fosphenytoin, but pediatric data are scarce and fosphenytoin is not authorized for use in France below five years old. In children, phenytoin is often preferred to phenobarbital, even though no comparative studies have demonstrated a better efficacy. To manage status epilepticus refractory to a benzodiazepine and administration of phenytoin and/or phenobarbital, many pediatricians today prefer high-dose midazolam infusion rather than thiopental to minimize serious side effects from barbiturate anesthesia. There is no benefit/risk ratio to support the use of propofol for children with refractory status epilepticus.

PMID: 19264335 [PubMed - indexed for MEDLINE]

Quindi...

Gestione delle viee aeree non invasiva nelle fasi iniziali mediante:

- Pervietà delle vie aeree
- Somministrazione di ossigeno
- Ventilazione mediante pallone autoespansibile (ambu-maschera facciale)

Quando intubare?

- Difficoltà nella pervietà delle vie aeree
- Impossibilità di ventilazione in maschera
- Stato epilettico refrattario

Che farmaci usare?

Atropina 0,02 mg/kg

- Propofol 2,5-4 mg/kg + Fentanest 1-3 mcg/kg + Succinilcolina 1-2 mg/kg
- Ketamina 2 mg/kg+ Succinilcolina 1-2 mg/kg

Grazie per l'attenzione