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APPRAOCH TO A CHILD WITH ACUTE FLACCID PARALYSIS

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**Renu Suthar

Abstract: Acute flaccid paralysis is a clinical syndrome characterized by rapidly evolving weakness, which may include respiratory and bulbar muscles. Acute flaccid paralysis represents a syndromic diagnosis and can have an array of diagnostic possibilities. This condition can be a medical emergency characterized by rapid progress of clinical signs and symptoms. Immediate management includes supporting airway, breathing, and circulation in these children. Diagnosis is clinical and confirmed by specific investigations. An accurate and early etiological diagnosis has an important bearing on the management and prognosis. This review discusses the approach to a child with acute flaccid paralysis and also discusses some key features of the common causes of acute flaccid paralysis.

Keywords: Flaccid weakness, Quadriparesis, Polio, Hypotonic paralysis, Guillain-Barre Syndrome.

Points to Remember

- Acute flaccid paralysis in children is a medical emergency.
- AFP is a clinical syndrome with array of differential diagnosis.
- The common causes of AFP are Guillain-Barre syndrome, anterior horn cell myelitis and acute transverse myelitis.
- Rapid evolution of the weakness can lead to respiratory failure. Hence a child with AFP should be managed in PICU in the initial few days.
- AFP surveillance is a key strategy for global polio eradication.

References


**APPRAOCH TO A CHILD WITH ATAXIA**

*Leema Pauline C
**Viveka Saravanan R
**Ravi LA

Abstract: Ataxia is a relatively common neurological problem in children which encompasses a wide range of causes from infections to inherited disorders. The history and clinical examination coupled with appropriate investigations including neuroimaging can lead to an appropriate diagnosis. Some of these diseases are treatable while the other inherited ataxias require genetic counseling for the patients and their families.

Keywords: Ataxia, Cerebellar, Childhood

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**Points to remember**

- Ataxias in children may be a manifestation of wide range of disorders.
- Diagnosis should be approached with a chronological order into acute, intermittent, and chronic ataxia.
- Acute cerebellar ataxia is the most common cause of childhood ataxia which usually results from drug ingestion or postinfectious cerebellar demyelination.
- Intermittent ataxia should raise the suspicion of an underlying inborn error of metabolism.
- Friedrichs ataxia followed by ataxia telangiectasia are the common causes of inherited ataxias in children.

References

PEDIATRIC CNS DEMYELINATING DISORDERS- AN UPDATE

*Lokesh Lingappa  
**Nikit Milind Shah

Abstract: Pediatric central nervous system (CNS) demyelinating disorders are a heterogeneous group of conditions with demyelination as the pathological hallmark, acute demyelinating encephalomyelitis (ADEM) being the commonest disorder with very good long term outcomes. Optic neuritis has variable outcome despite aggressive treatment. Transverse myelitis is the most severe of all the demyelinating disorders due to the long term disability it produces. Multiple sclerosis is well known to have a relapsing or progressive course.

Keywords: Demyelinating disorders, Central nervous system, Children.

Points to Remember

- ADEM is associated with significant involvement of deep grey matter.
- Periaqueductal involvement in presence of myelitis or ADEM like picture points towards diagnoses of NMO spectrum disorder.
- Second line immunomodulation are increasingly playing a major role in reducing the disability in these demyelinating disorder.
- Bilateral optic neuritis is a common association with ADEM whereas unilateral optic neuritis is common as first clinical event of multiple sclerosis.
- Multiple sclerosis generally presents as relapsing remitting demyelinating illness.

References


APPREOACH TO MUSCLE DISORDERS IN CHILDHOOD

*Viswanathan V

Abstract: Muscle disorders form a major bulk of cases in any pediatric neurology clinic. It can be quite a daunting task at times to decide on the nature of the muscle disease as there are so many types and the clinical variability is huge. A unique nature of muscle disorders is that they show wide phenotypic variability even in children with the same disease. Two children in the same age group with similar genetic abnormality but showing wide variability in the phenotypic expression of the disease is not uncommon in clinical practice which makes counseling of the family members a difficult task.

Keywords: Muscle disorders, Children, Clinical variability, Genetics, Phenotypic expressions, Counseling.

Points to Remember

- It is important to make a correct diagnosis of muscle disorders and plan the investigation of choice accordingly.
- Genetic diagnosis is helpful in many cases, not only to prognosticate but also to test for carrier status and counsel regarding the chance of recurrence.
- Early intervention including physiotherapy, care of respiratory and cardiac issues helps in improving the quality of life and longevity in these children.
- Some of the children with muscle disorders may improve over time.

References


HYDROCEPHALUS

*Hari VS
**Thiagarajan G
***Lakshmi Tilak S

Abstract: Pathophysiology, clinical features, management and complications of hydrocephalus have been discussed in this article. Emphasis is on practical aspects relevant to the pediatrician and residents. Procedures have been dealt with in detail wherever necessary. Endoscopic third ventriculostomy which has become safer and improvements in shunt systems are discussed.

Keywords: Hydrocephalus, Childhood, Shunt, CSF.

Points to Remember

- Serial assessment of head circumference charting and matching it with age and sex matched graphs to identify hydrocephalus and early shunting in case of clinical signs and symptoms of raised ICP is advised.
- Cognitive improvement is better with early shunting.

References

EPILEPTIC ENCEPHALOPATHIES IN CHILDREN

*Vinayan KP

Abstract: Childhood epileptic encephalopathic syndromes are a group of conditions in which cognitive, sensory and/or motor functions deteriorate as a consequence of epileptic activity. This terminology classically denotes a group of well-defined epileptic syndromes of childhood associated with a high probability of encephalopathic features that develop or worsen after the onset of epilepsy. However, it is increasingly being used in children who develop any deterioration/stagnation in development as a result of presumed epileptic activity. This phenomenon is most common and severe in infancy and early childhood. Evidence for the currently available therapeutic options in these difficult-to-treat epileptic syndromes is reviewed and a stepwise management strategy is suggested.

Keywords: Epileptic encephalopathy, Syndrome, Children, Treatment

Points to remember

- Childhood epileptic encephalopathic syndromes are a group of resistant epilepsies in which cognitive, sensory, and/or motor functions deteriorate as a consequence of epileptic activity.
- This deterioration may be the product of the underlying cause, the result of epileptic activity in the brain, or a combination of both.
- The currently available therapeutic options in epileptic encephalopathies include antiepileptic drugs, co-factors like pyridoxine, steroids, intravenous immunoglobulins, epilepsy surgery and ketogenic diet.
- Children with epileptic encephalopathic syndromes may need early and aggressive management in a specialized center for the optimal developmental outcome.

References


NEUROMETABOLIC DISORDERS: A DIAGNOSTIC APPROACH

*Bindu PS
**Taly AB

Abstract: Inherited neurometabolic disorders constitute an important group of genetic disorders with diverse neurological manifestations. Many of them are amenable for treatment and early intervention is necessary to prevent or ameliorate the extent of brain damage. However, the diagnosis and management of these disorders are often challenging to the clinicians in view of the overlapping and non-specific phenotypes. A systematic diagnostic approach often helps in narrowing down the differential diagnoses and plan appropriate investigations. This review presents a symptom-based approach for diagnosis of common metabolic disorders encountered in clinical practice.

Keywords: Neurometabolic disorders, Inborn errors of metabolism, Epilepsy, Children.

Points to Remember

- Neurometabolic disorders cause diverse neurological manifestations.
- A systematic approach encompassing clinical, biochemical and magnetic resonance imaging helps in diagnosis.
- It is important to be familiar with the age-dependent manifestations of the common neurometabolic disorders.
- The rational treatment of metabolic disorders requires understanding of the pathophysiological process responsible for the disease.
- Early intervention can improve the quality of life and prevent irreversible brain damage.

References


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TRAUMATIC BRAIN INJURY

*Soonu Udani

Abstract: Traumatic brain injury (TBI) is the most common cause of intracranial hypertension. The hallmark of TBI is cerebral edema and raised intracranial pressure with its detrimental effect on the brain. The focus here is on the practical aspects of controlling intracranial pressure, maintaining cerebral perfusion pressure and supporting the patient’s hemodynamics and vital functions during the initial critical days.

Keywords: Traumatic brain injury, Intracranial pressure, Cerebral perfusion pressure, Neuromonitoring.

Points to Remember

- Basic monitoring and meticulous care is of prime importance in the management of traumatic brain injury.
- Seizures, fever, pain and sedation need close attention.
- CPP targeted therapies hold promise for better outcomes.
- ICP monitoring is useful for targeting therapy.
- Hypertonic saline is preferred over mannitol.
- Hypothermia is advised only in refractory life threatening ICP.
- Attention not only to mortality but also to good outcome is vital.

References

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HYPOXIC ISCHEMIC ENCEPHALOPATHY IN CHILDREN: AN INTENSIVIST’S PERSPECTIVE

Jayashree M
**Abhijit Choudhary

Abstract: Hypoxic ischemic encephalopathy is a syndrome of acute global neuronal injury resulting from combination of hypoxia, ischemia and reperfusion. The clinical conditions leading to HIE in children include cardiac arrest, asphyxia and drowning. Anatomical areas of the brain vulnerable to hypoxia and ischemia include hippocampus, caudate and putamen with relative sparing of the brainstem. The most common clinical presentation is altered consciousness. The key objective of intensive care management is to anticipate, prevent and treat secondary physiological insults to the brain through a structured protocolized ‘neuroprotective approach’. Therapeutic hypothermia is coming up as an option for older children especially in out-of-hospital cardiac arrest once return of spontaneous circulation is achieved. Outcome goals are quality survival rather than survival alone.

Keywords: Hypoxic ischemic encephalopathy, Children, Intensive care, Neuroprotection.

Points to Remember

- Hypoxic-ischemic encephalopathy is a constellation of pathophysiological and molecular injuries induced by hypoxia, ischemia and cytotoxicity and further aggravated by reperfusion.
- Children with HIE present with altered consciousness and seizures.
- Intensive care management focuses on maintaining a balance between systemic and cerebral targets with the help of multimodal neuromonitoring.
- The neuroprotective approach emphasizes on normoxia, normocarbia, normotension, and euglycemia.
- Fever must be strictly avoided in all children with HIE.
- Therapeutic hypothermia can be considered as an option in OHCA after ROSC is achieved.
- Biomarkers, evoked potentials and neuroimaging have been used in combination with clinical signs for outcome prediction.

References


**CHILDHOOD MIGRAINE**

*Sangeetha Yoganathan*

**Abstract:** Headache is one of the most common causes of referral to the emergency department and neurology clinic visit in children. Migraine, tension type headache and cluster headache are the common causes of primary headache. Based on the temporal patterns, headache can be categorized into acute, acute and recurrent, chronic non-progressive and chronic and progressive. The pathophysiology of migraine is complex. The traditional medical model of history, general physical and neurological examination should be followed in evaluation of any child with headache. General physical examination begins with assessment of vitals, anthropometry and search for any external markers of vasculitis. Thorough neurological examination should be carried out to document any signs of raised intracranial pressure or focal neurological deficits. Imaging is not routinely recommended in children with well recognized episodic headache symptoms suggesting diagnosis of migraine. Nonsteroidal anti-inflammatory agents (NSAIDs), acetaminophen, 5-HT receptor agonists, dopamine receptor antagonists, and antihistamine agents are often used in aborting acute migraine attacks. Migraine headache that impairs the quality of life and functioning are indicators for the initiation of prophylaxis. This review will briefly discuss about the clinical approach, evaluation, differential diagnosis and management of children with migraine.

**Keywords:** Headache, Migraine, Migraine prophylaxis

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**Points to Remember**

- Migraine is a common cause of headache in children and adolescents.
- Migraine without aura is the most frequent form.
- Diagnosis is essentially clinical and other causes of headache such as neoplastic, vascular, metabolic or toxic disorders must be excluded.
- Need for prophylaxis is decided by the headache burden and disability.
- Balanced treatment with pharmacological measures and biobehavioural interventions should be endorsed.

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GENERAL ARTICLE

UNEXPECTED DIFFICULT PEDIATRIC AIRWAY: PEARLS AND PITFALLS FOR THE EMERGENCY DEPARTMENT PHYSICIAN

*Debasis Das Adhikari
**Ekta Rai

Abstract: Unexpected difficult pediatric airway without predictors is rare but when encountered is a nightmare. These crises can be salvaged safely most of the time if the background knowledge, concepts and strategies are not only read but also rehearsed, practiced and discussed frequently. As the pediatric emergency doctors rarely face the problems of maintaining unanticipated difficult airway, they have to be well versed with the guidelines. This review article proposes to present the simple stepwise approach to such a situation based on the current evidences and literature.

Keywords: Difficult airway, Unanticipated, Children, Emergency.

Points to Remember

- Be familiar and be prepared with alternative methods of intubating techniques and use it regularly in your day-to-day practice as part of failure plans, e.g. laryngeal mask airway, gum elastic bougie, fiber optic intubation so that you will not fumble at the time of crisis and will not panic.
- Oxygenate at all times as oxygenation is more important than intubation in the time of crisis.
- “It is preferable to use superior judgment – to avoid having to use superior skill.”
- Step-by-step process is in order.
- Help should be called for early.

References


DRUG PROFILE

ANTACIDS AND H2 RECEPTOR ANTAGONISTS

*Dr. Jeeson C Unni
**Dr. Ranjit Baby Joseph

Abstract: Strong evidence for the use of antacids and to a lesser extent, Histamine H2 receptor antagonists in the treatment of conditions requiring a reduction in gastric acid production is lacking. Other indications for specific antacid molecules are also discussed.

Keywords: Antacids, Histamine H2 receptor blockers, Proton pump inhibitors.

Points to Remember

- **PPIs are the drug of choice in primary acid reflux disease.**
- **Efficacy of H2RAs is not proved in the treatment of GERD but may be used in conditions associated with acute gastrointestinal bleed.**
- **H2RAs may reduce severity of the refluxate.**
- **Antacids are not routinely recommended for treatment of GERD. Calcium salts are recommended as phosphate binders and its use as antacids should be avoided.**

References


NUTRITIONAL DERMATOSES IN CHILDREN

*Anandan V
**Yoganandhini C

Abstract: Skin is the most important organ providing sensory perception, enclosing barrier and environmental protection, regulating temperature and producing vitamin D. Nutrition is a dynamic process concerned with ingestion, digestion, absorption and assimilation of food for nourishing the body. Skin reflects the internal well being and balanced nutrition in the form of smooth shiny skin, glossy hair, well developed muscles, bones and teeth, strong build and energetic to look at.

Keywords: Micronutrients, Deficiency status, Macronutrients, Nutritional dermatoses.

Points to Remember

- Skin can reflect nutritional deficiency.
- Sound knowledge about dermatological manifestations of nutritional deficiency will help in early diagnosis.
- Correction of the deficiency will reverse the cutaneous findings.

References

FETAL CHOLELITHIASIS – A FOLLOW UP

*Subha B  
**Parvathy M  
***Vindyarani WK

Abstract: Fetal gallstones, detected by routine third trimester ultrasound, have been described in the literature with controversial clinical significance. We report a case of fetal cholelithiasis detected at 38 weeks gestation during a routine scan. The patient remained asymptomatic and had a complete spontaneous resolution of the gallstones in postnatal life as described in most other studies.

Keywords: Fetal cholelithiasis, Follow up, Ultrasonogram

References