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**CHRONIC HEPATITIS B AND C - MANAGEMENT**

*Malathi Sathiyasekaran*

**Abstract:** Hepatitis B and Hepatitis C viruses are important causes of chronic liver disease presenting as chronic hepatitis, cirrhosis, end stage liver disease and hepatocellular carcinoma. Vertical transmission is seen both in pediatric HBV and HCV, which not only needs to be prevented but also treated adequately if it occurs. Since HBV integrates into the host DNA during the time of entry into the hepatocyte it is very difficult to cure the disease with the available therapy. Universal immunization program with the HBV vaccine is the best way to prevent this morbid infection. HCV is an exclusive intracytoplasmic virus and therefore cure can be achieved. The new direct acting antivirals for HCV are highly effective in curing the infection.

**Keywords:** Hepatitis B virus, Hepatitis C virus, Vertical transmission, Direct acting antivirals.

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**Points to Remember**

- Hepatitis B and Hepatitis C viruses can progress to chronic hepatitis, cirrhosis, end stage liver disease and hepatocellular carcinoma.
- HCV and HBV infection may remain asymptomatic and detected incidentally by elevated transaminases or hepatomegaly.
- Children acquiring infection through vertical transmission either HBV or HCV should be identified and treated as per recommended guidelines.
- Hepatitis B infection till date is not amenable to cure with the available therapy but can be suppressed and therefore immunization should be encouraged.
- The new direct acting antivirals are effective and can be used for treating HCV in the pediatric age group.

**References**


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GASTROENTEROLOGY

CYSTIC FIBROSIS – GASTRO INTESTINAL MANIFESTATIONS AND MANAGEMENT

*Prasanth KS

Abstract: Cystic fibrosis is an autosomal recessive, multisystem disease that affects the lungs, gastrointestinal tract, pancreas and hepatobiliary system and is caused by mutations in the gene encoding the cystic fibrosis transmembrane conductance regulator protein. Gastrointestinal manifestations of cystic fibrosis have become increasingly important in the management, given the improved lifespan with the advances in therapeutic options. Pancreatic insufficiency is highly prevalent, intestinal luminal presentations are diverse and hepatobiliary manifestations are among the most severe and require focused management. Identifying and managing GI manifestations of cystic fibrosis is part of comprehensive multisystem approach to care.

Keywords: Cystic fibrosis, GI manifestations, Pancreatic insufficiency, Hepatobiliary manifestations.

Points to Remember

- Cystic fibrosis is a multisystem disorder with significant involvement within gastrointestinal (GI), pancreatic and hepatobiliary systems in addition to the hallmark pulmonary manifestations necessitating early recognition and management for better outcome.
- Luminal complications are myriad but frequently relate to viscous intraluminal secretions underscoring the need for targeted management.
- Hepatobiliary manifestations observed with varying severity from early life and cystic fibrosis associated liver disease is a spectrum requiring timely recognition and management.
- Pancreatic insufficiency and malabsorption are highly prevalent and most patients benefit from pancreatic enzyme replacement therapy.

References


PEDIATRIC ACUTE LIVER FAILURE

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**Malobika Bhattacharya

Abstract: Pediatric acute liver failure is a complex and rapidly progressive syndrome that results from a variety of age-dependent etiologies. It is defined as an acute onset of liver disease with no evidence of chronic liver disease. There must be biochemical or clinical evidence of severe liver dysfunction as defined by an international normalized ratio (INR) >2 and if hepatic encephalopathy is present, INR should be >1.5. Encephalopathy and cerebral edema are the most frequent causes of mortality and morbidity and both have to be managed aggressively. The decision of liver transplantation has to be taken judiciously.

Keywords: Liver failure, Children, Encephalopathy, Coagulopathy, Cerebral edema

Points to Remember

- Pediatric ALF is diagnosed when a child without evidence of chronic liver disease presents with biochemical evidence of acute hepatic injury with encephalopathy.
- Encephalopathy is not needed to make a diagnosis of pediatric ALF if coagulopathy is severe (INR>2).
- Infective hepatitis is the commonest etiology in developing countries while drug induced ALF and metabolic causes are commoner in developed nations.
- Autoimmune hepatitis is a frequent etiology in adolescents while Wilson disease is common after 5 years of age.
- Pediatric ALF should always be managed in a PICU setting.
- Decision to transplant should be taken judiciously.
- Aggressive management of intracranial hypertension, systemic infections and encephalopathy improves patient outcome even without transplantation.

References


**GASTROENTEROLOGY**

**CHOLELITHIASIS**

*Riyaz A

**Abstract:** In recent years, gallbladder disease, primarily in the form of cholelithiasis is being increasingly reported in infants and children. Pediatricians should be aware of this underappreciated disease and understand the manifestations of biliary disease in children. In this article, the etiology, clinical features, diagnosis and management of cholelithiasis are discussed. The most sensitive test for diagnosis is ultrasonography. Ursodeoxycholic acid is useful only for small cholesterol stones, which are rare in children. Prolonged treatment with ceftriaxone may cause biliary sludge which usually subsides spontaneously after stopping the drug.

**Keywords:** Cholelithiasis, Ursodeoxycholic acid, Laparoscopic cholecystectomy, Sickle cell anemia.

**Points to Remember**

- The prevalence of gallstone disease in children, including neonates and fetus, appears to be increasing.
- A significant number of children may be asymptomatic and are picked up incidentally by ultrasonography.
- Asymptomatic or incidental gallstones may not require surgical intervention, but if indicated, the laparoscopic approach is preferred.
- Larger stones (>20 mm) are unlikely to disappear spontaneously and in adults may lead to carcinoma of the gallbladder.
- All children with gallstones secondary to congenital hemolytic anemias should undergo prophylactic cholecystectomy.
- The role of chemical dissolution with UDCA is negligible in children.

**References**


GASTROESOPHAGEAL REFLUX DISEASE

*Bhaskar Raju B

Abstract: Reflux of stomach contents into distal esophagus is normal in the first few months of life and resolves spontaneously. The same reflux, when persistent and severe, results in acid and pepsin induced damage to esophageal mucosa and pathological effects in the aero-respiratory tract, resulting in “troublesome symptoms”. This is called gastroesophageal reflux disease. While maternal complaints of vomiting, spitting, possetting and regurgitations are very common, the pediatrician should be careful to differentiate between simple reflux and reflux disease to avoid unnecessary medication. They should be familiar with red flag symptoms that warrant investigations, and which investigation to be relied upon for diagnosis of “disease”. Acid suppression, drugs to promote gastric emptying and increase LES pressure are the cornerstones of therapy. Unlike adult GERD, pediatric GERD therapy need not be prolonged and can be stopped once lesions heal in the esophagus. Recurrences are uncommon if lifestyle changes and dietary modifications are followed strictly. Surgery is to be restricted to intractable GERD, usually seen in the context of neurological deficit.

Keywords: GER, GERD, Gastroesophageal reflux disease, Pediatrics, Children, PPI.

Points to Remember

• GER is very common in infancy, caused by transient physiological LES relaxations (TLR).
• Most GER resolves by 6m.
• TLRs can be prolonged in many situations, where reflux preventive factors fail, like poor LES function, poor clearance of refluxate, abnormal angle of HIS, inadequate diaphragmatic crural action, resulting in mucosal damage and troublesome symptoms.
• Differentiation between GER and GERD vital to avoid expensive and invasive investigations, besides unnecessary therapy.
• Presence of red flag signs warrant investigations.
• pH and impedance studies, and endoscopy are adequate in most cases of suspected GERD.
• Lifestyle changes and dietary modifications should be given a try before drug therapy is considered.
• Acid suppression and drugs to promote LES function and gastric emptying are adequate in most cases of GERD.
• Surgical option is very rarely needed and is associated with complications.
• GERD is a benign disease and amenable to therapy. If therapy fails, every attempt must be made to rule out more serious conditions that mimic GERD and other predisposing factors.
• Therapy can be stopped once lesions heal. Recurrences are not common. Still, many children with GERD, clear the disease in childhood, but present again in adulthood with recurrence of same GERD symptoms.

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GASTROENTEROLOGY

CELIAC DISEASE

*John Matthai
**Sridevi Sundararajan

Abstract: Celiac disease is an immune mediated small intestinal inflammation which occurs in genetically susceptible individuals on exposure to gluten. Once considered uncommon, the prevalence in parts of North India is similar to that in Europe. Classic celiac disease in India presents around 2 years of age with chronic diarrhea, failure to thrive and abdominal distension while atypical presentation is with non-gastrointestinal symptoms like short stature and refractory anemia. All suspected cases should be screened with serology (IgA tTG), but confirmation requires multiple duodenal biopsies. Lifelong gluten free diet (wheat, rye and barley) is the mainstay of therapy. Adhering to a strict gluten free diet is not only difficult but also expensive and hence a structured follow up is essential.

Keywords: Celiac disease, IgA tTG, HLA-DQ2, HLA-DQ8, Gluten free diet.

Points to Remember

- Celiac disease occurs due to gluten sensitivity in genetically predisposed individuals.
- Classic celiac disease is characterised by malabsorption and non-classic celiac disease is equally common.
- A combination of serology and duodenal histology is mandatory for diagnosis.
- IgA tTG is the preferred serological test for diagnosis.
- The only accepted treatment is life-long avoidance of gluten in diet.

References


CHRONIC PANCREATITIS

*Jayati Agrawal
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Abstract: Chronic pancreatitis is increasingly recognised in children from India. The etiology is unknown in most cases in India and genetic predisposition is strongly associated. Episodic pain abdomen is the common presentation. Diagnosis is based on documentation of structural changes by magnetic resonance cholangiopancreatography. Management depends on the anatomy. In obstructed pancreatic duct (due to stone and/or stricture), endotherapy helps in relieving pain. Surgery (resection) plays an important role in cases with intractable pain. The role of medical management of pain with antioxidants or pancreatic enzyme replacement therapy is limited. Chronic pancreatitis cases should be followed up regularly to detect long-term sequelae like exocrine/endocrine insufficiency and pancreatic carcinoma.

Keywords: Pancreatitis, Chronic, Etiology, Genetic predisposition, Endotherapy, Surgery.

Points to Remember

- Episodic or recurrent pain abdomen is the commonest presentation.
- Chronic pancreatitis is diagnosed by documenting structural changes on MRCP.
- Antioxidants and enzyme replacement therapy does not help in relieving pain.
- Endotherapy and surgery help in a subset of patients.
- Regular follow-up is necessary to detect long-term sequelae.

References


HEPATOPROTECTIVE AGENTS

*Jeeson C Unni
**Ranjit Baby Joseph

Abstract: The liver is one of the most active organs serving various important metabolic functions essential to sustain life. Being the main organ responsible for the metabolism of drugs and chemicals, it is exposed to various toxins. Infections and autoimmune disorders may also damage the liver. Hepatoprotective agents are a group of drugs administered to stall the progress of liver dysfunction and protect the liver from failure.

Keywords: Hepatocyte, Apoptosis, Hepatoprotective agents.

Points to Remember

- The hepatoprotective efficacy of NAC in acetaminophen poisoning without liver failure and penicillamine in Wilson’s disease is well documented.
- The efficacy of most of the other presently available hepatoprotective drugs is at best equivocal, including prevention of anti-tuberculosis drug-induced hepatotoxicity.
- On-going research is expected to deliver drugs that could serve as ideal hepatoprotective agents.

References


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ATOPIC DERMATITIS - WHAT'S NEW?

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Abstract: Atopic dermatitis is a common yet a complex disease to treat. A multimodal approach is required to bring the disease under control. This review aims in consolidating the views and various therapeutic and practical approach of the disease. Though various treatment guidelines have been proposed, the disease cannot be completely brought to remission, as the defect lies at the genetic level triggered by various environmental factors.

Keywords: Atopic dermatitis, Atopic eczema, Thymic stromal lymphopoietin, Filaggrin, Allergic Immunotherapy, Balneotherapy.

Points Remember

- Thorough knowledge is essential for correct diagnosis.
- Treatment is long term.
- Newer drugs are changing the outcome of the disease.
- Parental education is a must.

References

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STRABISMUS AND AMBLYOPIA - A CONCEPTUAL APPROACH

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Abstract: Strabismus and amblyopia are common reasons for referral to the paediatric ophthalmologist, and carry with them potentially vision threatening, functional, aesthetic and psychological consequences. Strabismus which is a common cause of amblyopia, can have important effects on social integration, hence identifying it at an earlier age may help prevent the development of amblyopia and improve the chance of restoring binocularity. Strabismus may be classified based on age of onset, fixation preference and comitance (a characteristic of strabismus in which the misalignment of the eyes is maintained in all directions of gaze). Incomitant strabismus usually occurs as a result of restriction or paralysis of the extraocular muscles. Important causes of incomitant strabismus which must be excluded include cranial nerve palsies III, IV and VI, myasthenia gravis and thyroid orbitopathy. When faced with an amblyopic child, it may be prudent to investigate and treat the underlying cause of the amblyopia before commencing on amblyopia treatment, i.e. patching therapy. Management of the child with strabismus depends on the type and etiology of the strabismus and can be broadly dichotomized to conservative (non-invasive) and surgical management. Conservative management of strabismus include correction of the refractive error, convergence exercises for intermittent exotropia, Fresnel prisms and botulinum toxin injection to the antagonistic muscle. All primary care practitioners and health care workers should be aware of the common manifestations, recognize and refer to the appropriate specialist for detailed evaluation and management. Timely treatment of strabismus when referred early can help to restore binocular single vision improving or maintaining fusion as well as the prevention and treatment of amblyopia.

Keywords: Incomitant strabismus, Amblyopia, Management.

Points to Remember

Strabismus

• Misalignment of visual axis between both eyes
• Can be latent or manifest – latent strabismus are termed “phorias” and manifest ones are termed “tropias”
• Can be constant or intermittent, comitant or incomitant
• Can be managed conservatively with prisms and exercises
• Surgery may sometimes be needed to correct the deviation and allow for the development of fusion and stereopsis

Amblyopia

• Causes include strabismus, refractive errors and visual stimulus deprivation
• Reduction in best-corrected visual acuity that cannot be attributed directly to the effect of a structural abnormality of the eye or visual pathways
• Management involves treating the underlying cause

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