

Special Communication

Recommendations for the treatment of chronic Hepatitis C infection in children

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Methodology

A total of 6 prominent paediatric gastroenterologist from all over the country were invited to join in the quest for defining a strategy for the management of chronic HCV infection in children in Pakistan, in the light of existing information from national and international adult studies along with existing paediatric data. Such data was critically analyzed by the panel of experts and the following consensus was derived. Completion of these recommendations has been possible after 6 meetings and discussions on the subject.

Prevalence of HCV in Paediatrics

The seroprevalence of HCV in paediatric population aged <12 years is about 0.2% and for those 12-19 years it is 0.4%.¹ In Pakistan HCV genotype 3 prevalence is between 75 - 90%, subtype 3a is next commonest followed by 3b. Other genotypes seen occasionally are type 1 and type 2 (adult studies in Pakistan).

Criteria for Treatment of HCV in Paediatrics

Children who have more than 2 years of persistently elevated ALT (1.5 - 2 times ULN) with positive HCV antibody (3rd generation Elisa) a positive HCV RNA in serum (qualitative PCR) may be treated with interferon therapy.

Liver biopsy is recommended and if there is low activity index on liver biopsy then treatment should be deferred.

Serial follow up should be done with blood CP and ALT every month for 6 months and qualitative PCR at the end of therapy. PCR should be repeated at 8-12 months if ALT remains elevated during treatment.

Therapy for HCV in Paediatrics

Interferon alfa (3 miu /m² s/c three times / week) with Ribavirin (15 mg / kg body weight) for 6 months (24 weeks) is generally recommended for treatment of HCV genotype 3 and 48 weeks for genotype 1. Follow up of patients while on treatment is elaborated later.

HCV with Co morbidities for Treatment

Co morbidities commonly seen as renal failure requiring dialysis, haemoglobinopathies, Iron overload, Non alcoholic steato hepatitis (NASH), hepatocellular carcinoma (HCC) and HIV/AIDS require treatment because they can be associated with chronic inflammatory process and add to hepatitis C disease process.

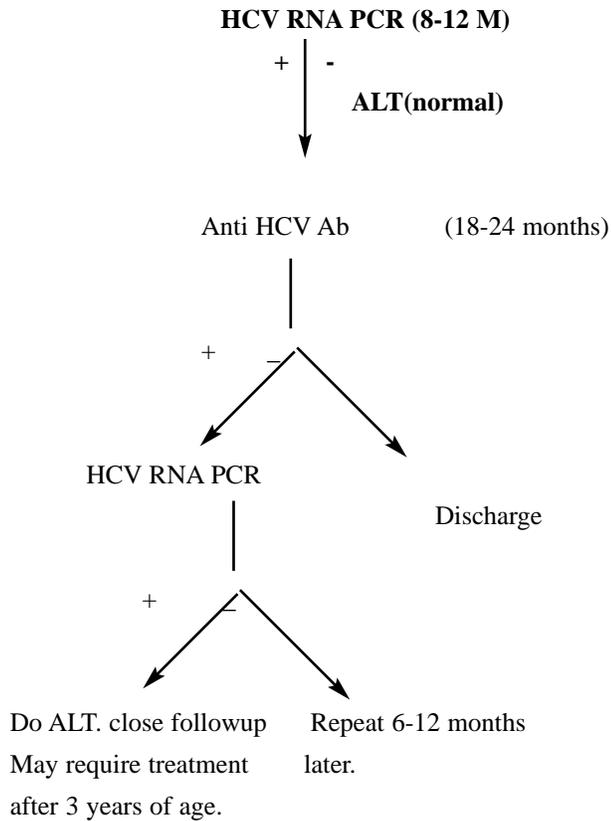
Non-responders

As genotype 3 is prevalent which is a favourable genotype, therefore qualitative HCV RNA PCR is recommended as a cost effective approach to diagnose viral presence. Quantitative PCR is recommended only in genotype 1 cases. When ALT is raised for over 6 months and HCV RNA PCR is positive then treatment is recommended with interferon for 6 months. HCV RNA (Qualitative) is repeated at 6 months to see end of the treatment response and at 12 months (6 months after stopping treatment) to see the sustained response. Genotype 1 has been reported in some haemodialysis patients. Pegylated IFN and Ribavirin has shown good tolerance in children having chronic Hepatitis C due to genotype 1 and the end of treatment response has been reported as 80%³ but pegylated IFN and Ribavirin is recommended in adolescent and children over 16 years of age.⁴

Response to therapy

Data on paediatric population is very scanty, therefore inference is taken from data based on adult studies. During therapy blood CP and ALT is done every 4 weeks. If TLC is < 3000 or platelets <30,000 then treatment is stopped for 2-4 weeks, these tests are repeated every 1-2 weeks; once TLC and platelets are normalized therapy is restarted. If ALT remains normal during therapy it is not recommended to do HCV RNA. Haemoglobin falls during therapy due to haemolysis following ribavirin use. Folic acid should be added when haemoglobin starts to show a fall. The dose of ribavirin is reduced when haemoglobin falls below 10 and ribavirin is stopped when haemoglobin falls below 8 grams. Haemoglobin is monitored every 1-2 weeks and once over 10 grams therapy is restarted. TSH may be done at the start of therapy and repeated if signs of hypothyroidism are suspected.

Cost effective Approach to follow-up Maternal HCV Positive Babies:



Phase after the end of treatment

When ALT is normal and PCR is negative at the end of the treatment then it is called "end of therapy" response. When ALT is normal and PCR is negative at six months after finishing the treatment then it is called sustained virologic response. Remission has been seen up to 5 - 10 years. It is not recommended nor is it cost effective to do ALT and PCR before 3 months after finishing the course of treatment.

Patients who do not respond to treatment

When ALT remains high for 12 weeks after starting the therapy and PCR is also positive then this is called non responder. It is recommended to follow these cases and wait for a better therapy to be tried

Patients who relapse after treatment

Some patients show elevations of ALT within 6 months of stopping interferon therapy. ALT is followed for

3-6 months and if it is persistently increased then PCR is repeated. If PCR is also positive then this is a relapse. These cases should again be monitored. There is no point in giving the same therapy again.

Treatment in Fibrosis i.e Cirrhosis

If any degree of hepatic fibrosis is present antiviral treatment for HCV should be considered.⁴ INF therapy is contraindicated in those having decompensated liver disease.⁴

Therapy related side effects

Cough, dyspnoea, rash ,pruritus, insomnia and anorexia are often seen with combination therapy. Wth INF therapy some degree of alopecia and hypo or hyperthyroidism has also been reported. Haemoglobin , WBC and Platelet counts are recommended to be monitored to check for neutropenia and thrombocytopenia related to therapy.

INF may cause depression and irritability, suboptimal school performance and other behavioral disturbances. Ribavirin can cause dose dependant haemolytic anaemia.

Contraindications to combination therapy

Interferon therapy is contraindicated in decompensated cirrhosis, I.V drug use, alcohol abuse, autoimmune disease and neuropsychiatric conditions in children. Ribavirin therapy is contraindicated in renal failure, anaemia, haemoglobinopathies and severe heart diseases.

Prevention of Spread of HCV

Precautions should be taken to prevent spread of HCV through avoidance of unnecessary injections, Health education, in case of IV drug use (reuse of needles by medical practitioners) tattooing and shaving by barbers(reuse of blades) . Blood screening should be mandatory for all blood banks.

References

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