PEDISCAN

ISSUE

07

JULY
2019

MONTHLY JOURNAL OF THE INDIAN ACADEMY OF PEDIATRICS, BANGALORE

IAP BANGALORE-BPS NEWSLETTER

EDITORIAL

Dear readers,

We are glad to present the July newsletter! We have just completed the 6th edition of the iconic Bangalore Pedicon which was well attended and appreciated. We extend our heartfelt gratitude and thanks to every member whose invaluable contribution has made the conference a big success.

In this edition we are presenting 'The Pediatrician's role in management of haematological malignancies'. A very important role in early diagnosis and prompt referral so that early treatment is started for better survival.

We look forward for interesting articles. Happy reading!
Warm regards,

Dr Nandeesh

Dr Priya Shivalli

In this issue:

Management of Hematological Malignancies - Role of Pediatrician

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Role of Pediatrician is critical to the management of children with hematological malignancies.

For early diagnosis and prompt referral: Most of the times, children present to the general paediatrician initially with vague symptoms. High index of suspicion is crucial in diagnosing haematolymphoid malignancies and prompt early referral to Pediatric Hematologist/Oncologist so that kids have a better outcome. Leukemias are the commonest childhood cancer and Acute Lymphoblastic leukemia (ALL) is more common than Acute Myeloid Leukemia (AML). Children usually present with unexplained fever sometimes associated with easy bruising, bleeding, lymphadenopathy and/ or hepatosplenomegaly or bone pains. Initial screening tests include Complete blood counts with meticulous examination of Peripheral smear by an experienced hematopathologist. If cytopenias or blasts are seen on CBC/ peripheral blood, prompt referreal is warranted. It is important to consider Leukemia (especially ALL) in differential diagnosis of ITP (Immune thrombocytopenic purpura), IMN (Infectious mononucleosis), JIA (Juvenile Idiopathic Arthritis.

Lymphomas generally are lymphoid tumors which could be broadly classified as Hodgkin's and Non-Hodgkin's Lymphoma. Hodgkin's lymphomas generally present in adolescents with painless lymphadenopathy- usually in cervical region. There may be symptoms of associated fever, night sweats and weight loss. It should be considered in differential diagnosis of lymphadenopathy and Tuberculous lymphadenitis. Excision biopsy of the Lymph nodes is recommended for prompt diagnosis and FNAC is best avoided. NHL's are faster growing malignancies and could have varied presentations ranging from lymphadenopathy, hepatosplenomegaly, prolonged fever, bone pains, mediastinal compression or superior venacaval compression, pancytopenia, abdominal masses etc. Initial investigations include baseline blood investigations, followed by relevant imaging followed by biopsy. In emergency situations, discussion with the Pediatric haematologist is prudent in order to avoid delays and complications.

Role in Hematological emergencies:

Children may present with **Febrile Neutropenia** - which is defined as fever and low neutrophil count (below 500, or below 1000 and expected to drop below 500). Many children may have gram negative or gram-positive sepsis at the time of presentation (Leukemias/Lymphomas). Baseline blood cultures should be taken and broad-spectrum antibiotics (covering antipseudomonal- e.g. Piperacillin/Tazobactam or Cefepime or Cefoperazone/Sulbactam- with or without amikacin) should be started before referring the child to higher center.

Some kids especially with T-Cell Leukemia/Lymphoblastic Lymphoma may present with Mediastinal mass and signs/symptoms of **SMS/SVC syndrome** (superior mediastinal compression or superior venacaval syndrome). Stabilize the child before transfer. Start oxygen, no IV cannulation in upper limb, try to get diagnosis from least invasive method- Blood tests, blood film. Procedure like Lymph node biopsy or Bone Marrow examination without anesthesia if feasible. Please discuss the case with haemato-oncologist before referral and plan it accordingly. Avoid giving steroids as it may make diagnosis difficult, however in life threatening situations- steroids may be used as a life saving drug and attempt made to get tissue diagnosis within 48 hours or as soon as possible.

Children may have **bleeding diathesis** or **severe anemia** at the time of diagnosis which may be immediately life threatening rather than the malignancy itself. PRBC, Platelets or FFP transfusions can be done prior to transfer to avoid risks. If possible, get Irradiated blood products for transfusion. If flight transfer is planned- then maintain Hb above 8 gm/dl and platelets above 50,000. Please discuss with the referral center and the hemato-oncologists.

Children with T-Cell ALL/ Lymphoma, Burkitt's lymphoma may have **TLS- tumor lysis syndrome** at the time of presentation. TLS comprises of elevated uric acid, potassium, phosphorous and low calcium along with renal impairment and/or elevated urea/creatinine. Baseline blood investigations and start them on hyperhydration with potassium free fluids along with allopurinol before transfer. Single dose of steroids may precipitate bad TLS and make things worse. Many a times, simple measures to correct electrolyte imbalance like hyperkalemia, hypocalcemia may be lifesaving prior to transfer. Please discuss with the referral center.

During work Up and Intensive treatment: Once a referral is made, the Pediatrician is to be kept in close loop during initial diagnostic work up and stabilization. Families expect lot of support from the Pediatrician who has been their family doctor for years (generally). Hemato-oncologists need to work closely with the Pediatrician regarding diagnosis, treatment plan, overall prognosis, complications expected etc. Important timelines of treatment plan need to be discussed. Discussion regarding no vaccination during active chemotherapy phase and emphasis on how to manage kids missing school need to be addressed too.

During maintenance chemotherapy: Children with ALL, some types of NHL (lymphoblastic), some AML's (APL- Acute promyelocytic leukemia) required prolonged maintenance chemotherapy with oral agents which may go on for 2-3 years. Most kids would return back to hometown and should be cared in co-ordination with Primary Pediatrician and visit the referral center once a month for intravenous chemotherapy or monitoring or intrathecal chemotherapy (generally once in 3 months in some protocols). Children can usually go back to school during this time. Vaccinations cannot be resumed at this point of time. Discussion with the family regarding infection risks- bacterial, fungal and viral (chicken pox- besides others) has to be done. Close co-ordination with the Pediatrician on how to manage these infections has to be discussed.

Post treatment: Children need to be on close follow up with the Pediatrician and in close liaison with the hemato-oncologist to monitor for relapse and long-term side effects of chemotherapy or radiotherapy. Revaccinations are usually advised 6 months post chemotherapy or 6 months after stopping immunosuppression (for BMT kids). Pediatrician can administer in coordination with the ped hemato-oncologist. Nutritional rehabilitation and catch-up growth has to be monitored closely. Puberty and delay if any have to be dealt with accordingly. Neurocognitive development has to be monitored closely. Most children require psychosocial support to get back to school and routines in their lives.

In summary, the role of Pediatrician is very important for early diagnosis, prompt referral so that definitive treatment can be started early. Recognition of oncological emergencies and supportive care prior to referral is important to avoid mortality during transfers. Team work with close coordination between pediatrician and ped hemato-oncologists during active phase and maintenance is crucial to success of care. Post treatment also children need to be on follow up to monitor for relapse and long-term side effects. Support at every step is essential so that kids can get back to school and routines of life like other children and become the future of the family, society and the country.

OBITUARY

DR. JOSE K. PAUL

With profound grief, we announce the demise of our senior member, Dr Jose Paul on 09/07/2019 at Bangalore. Ever enthusiastic to update his knowledge, he would regularly attend all monthly meetings and conferences of IAP Bangalore . He will be remembered as a kind, gentle and genial human being. We pray to God to grant his family the strength to bear with this loss. He will be dearly missed!

UPCOMING EVENTS

Adolescon - 2019 National Conference

Dates: **17th ,18th August 2019**

Contact: **Dr S M Prasad/Dr Geeta Patil**

9845105122 / 9900520357

Workshop on Rheumatology

Date: **15th September 2019**. Details to be announced

Hearty congratulations to **Dr Santhosh Soans** on being conferred the **Dr B C Roy** award

PHOTO GALLERY

ATM workshop
inauguration

Pre conference workshop on
Neonatal ventilation

Basic Neonatal Ventilation
Workshop

Dignitaries lighting the lamp
at Bangalore Pedicon

Felicitation of CIAP President
Dr Digant Shastri

Dr Nisarga being conferred
Shishu Vaidya Ratna award

Free health camp at
RR Nagar site

Protest against
Assault on Doctors