news LETTER
www.psh.org.pk
Volume 7, No 6, No 5, April to June 2011

President's Column


Maj Gen Suhaib Ahmed

The recent outbreaks of Dengue fever in the country have brought a unique challenge for the medical community in general and haematologists in particular. This year Lahore is badly hit by the virus. There are several lessons that need to be learnt. Dengue has been around for many years but the unusual rain fall especially in and around Lahore has helped remarkable overgrowth of the carrier mosquito. The lesson number one is that Dengue is here and would be seen for an unknown period of time. The experience from malaria eradication speaks volumes for the difficulties we have had in controlling breeding of mosquitoes. I think the development of immunity after exposure to the virus or development of a vaccine could help us fight this menace. Natural immunity unfortunately is dengue genotype specific and prevents only re-infection with the same genotype. In fact previous infection makes the person more susceptible to infection by another genotype. We are hearing that the vaccine could very well be available in the foreseeable future!

There has been an unprecedented Dengue hype on the TV news channels. The problem has also been politicized to a great extent. Unfortunately there haven't been too many sane voices from the medical profession who could make an appearance on the electronic media to educate the public. One is amazed to see the number of requests for blood counts being received in the labs. There are examples on record where platelet counts were and are being requested on hourly intervals. Platelet transfusions are being given indiscriminately and for reasons that are not good enough. In some cases lab staff even received threats for not issuing platelet concentrates. The indiscriminate use has created a shortage of platelet concentrates for patients who actually needed them for saving life. The important lesson for the haematologists is that we need to disseminate the correct information through seminmars at our local hospital settings.

We have not heard anyone talking about the importance of voluntary blood donations. Single donor platelet concentrates can be prepared only where the special equipment is available. But the life saving product can also be prepared from fresh blood donations. There was a need to educate the people to come forward and give voluntary blood donations.

Let us hope and pray that our experience from the recent dengue outbreaks, first at Karachi and now at Lahore should make us wiser in combating such happenings in future.

With warm regards,
Maj Gen Suhaib Ahmed

Academics

Dengue Fever: a note from the forum of PSH

Dengue fever is an emerging serious heath problem worldwide; sweeping the world rapidly, specially hitting the countries with tropical and warm climates. There is a steady increase in the areas affected around the world; in 1970 only 9 countries had known epidemics of dengue hemorrhagic fever. Some 2.5 billion people – two fifths of the world's population – are now at risk from dengue. WHO currently estimates there may be 50 million dengue infections worldwide every year. In addition the intensity of disease in areas already affected is expected to rise. Dengue fever is caused by dengue viruses (DENVs), members of the Flaviviridae family. DENVs contain four closely related serotypes: DENV-1, DENV-2, DENV-3 and DENV-4. All four DENVs are transmitted between humans by mosquitoes of genus Aedes, principally Ades aegypti. The major problem with the dengue is the fact that a person infected by one of the serotypes will be immune for the same serotype but looses immunity to the three other serotypes shortly, and then becomes more susceptible to developing dengue hemorrhagic fever with relatively higher mortality than classical dengue fever.

Clinically dengue virus infection manifests in one of the three forms: Classical dengue fever (DF), Dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS). The DF is characterized by high-grade fever, body aches, bone pains, joint pains, retrobulber headaches and appearance of morbilliform / maculopapular rash. Appearance of purpuric rash, petechiae ecchymoses, bleeding from mucosa, gastro-intestinal tract, injection sites, or hematemesis in addition to classical DF characterizes the dengue hemorrhagic fever (DHF). Dengue shock syndrome is characterized by rapid week pulse, narrow pulse pressure or pulse pressure < 20 mm Hg, persistently low blood pressure, cool/ clammy skin, altered mental status and delayed capillary filling. Dengue virus infection may be asymptomatic or may cause undifferentiated febrile illness. The clinical presentation depends on age, immune status of the host, and the virus strain. After an average incubation period of 4-6 days (range 3-14 days), various non-specific undifferentiated prodromes, such as headache, backache and general malaise may develop. It is difficult to diagnose mild dengue infection clinically. A definitive diagnosis is confirmed by virus isolation and/or serology. Three laboratory features are highly predictive of a diagnosis of dengue: platelet count of <140 x 109/L, white blood cell count of <5x109 cells/L and ALT level of>40 IU/L. A combination of these parameters has a sensitivity of 75% and a specificity of 100%.

Typically, the onset of DF in adults is sudden, with a sharp rise in temperature occasionally accompanied by chills, and is invariably associated with severe headache and flushed face. The body temperature is usually between 39oC and 40oC, and the fever may be biphasic, lasting 5-7 days. Diffuse flushing or fleeting pinpoint eruptions may be observed on the face, neck and chest during the first half of the febrile period, and a conspicuous rash that may be maculopapular or scarlatiniform appears on approximately the third or fourth day. Towards the end of the febrile period or immediately after defervescence, the generalized rash fades and localized clusters of petechiae may appear over the dorsum of the feet, on the legs, and on the hands and arms. This confluent petechial rash is characterized by scattered, pale, round areas of normal skin. Occasionally the rash is accompanied by itching.
A drop in platelet count to below 100,000x109/L is usually found between the third and eighth days of illness in 61-97 % of patients. Thrombocytopenia is a consistent finding in dengue fever, it can be regarded as strong predictor, and however absence of thrombocytopenia should not be taken to exclude the possibility of dengue infection. The leukopenia is common initially, found in 71-90% of patients. A relative lymphocytosis with more than 15% atypical lymphocytes is commonly observed towards the end of the febrile phase (critical stage) and at the early stage of shock. TLC starts rising to resume normal near convalescence. A rise in hematocrit occurs in all DHF cases, particularly in shock cases. Haemo-concentration with hematocrit increased by 20% or more is considered objective evidence of increased vascular permeability and leakage of plasma. It should be noted that the level of hematocrit may be affected by early volume replacement and by bleeding.

A raised ALT is found in 47%-88% of patients. A raised AST or ALT can be taken as a strong predictor of dengue infection; however absence of raised enzymes should not be taken as evidence to exclude possibility of DF. The liver is usually palpable early in the febrile phase, varying from just palpable to 2-4 cm below the right costal margin. Liver size is not correlated with disease severity, but hepatomegaly is more frequent in shock cases. The liver is tender, but jaundice is not usually observed, even in patients with an enlarged, tender liver. In some epidemics, hepatomegaly is not a consistent finding correlated with disease severity. Dengue serology may be negative at this stage. How ever it is not necessary for management to confirm the diagnosis through laboratory tests.

Warning signs

a. Abdominal pain or tenderness
b. Persistent vomiting
c. Clinical fluid accumulation
d. Mucosal bleeds
e. Lethargy, restlessness
f. Liver enlargement >2 cm
g. Laboratory: increase in HCT, concurrent with rapid decrease in platelet count

Management

Group A – patients who may be treated in out door

1. Patients who are able to tolerate adequate volumes of oral fluids
2. Can pass urine at least once every six hours
3. Do not have any of the warning signs.

Patients should be reviewed daily for disease progression. Encourage oral intake of oral rehydration solution (ORS), fruit juice and other fluids containing electrolytes and sugar to replace losses from fever and vomiting. Give paracetamol for high fever if the patient is uncomfortable. Patient should be brought to hospital immediately if any of the following occur:

a. no clinical improvement
b. deterioration around the time of defervescence
c. severe abdominal pain, persistent vomiting
d. cold and clammy extremities, lethargy or irritability/restlessness
e. bleeding (e.g. black stools or coffee-ground vomiting), not passing urine for more than 4–6 hours

Patients who are sent home should be monitored daily by health care providers for:

a. temperature pattern
b. volume of fluid intake and losses
c. urine output
d. warning signs
e. signs of plasma leakage and bleeding
f. haematocrit, white blood cell and platelet counts

Group B – patients who should be admitted in-hospital for management

1. Patients with warning signs
2. Those with co-existing conditions that may make dengue or its management more complicated

Recommended to manage as follow:

a Obtain a reference haematocrit before fluid therapy.
b. Give only isotonic solutions such as 0.9% saline, or Ringer's lactate
c. Reassess the clinical status and repeat the haematocrit. If the haematocrit remains the same or rises only minimally, continue infusions at the rate (2–3 ml/kg/hr) for another 2–4 hours.
d. If the vital signs are worsening and haematocrit is rising rapidly, increase the rate of infusion to 5–10 ml/kg/hour for 1–2 hours

Group C – patients with severe dengue

1. Severe plasma leakage leading to dengue shock and/or fluid accumulation, with respiratory distress
2. Severe haemorrhages
3. Severe organ impairment like hepatic damage, renal impairment, cardiomyopathy, encephalopathy or encephalitis

All patients with severe dengue should be admitted in hospital with access to intensive care facilities and blood transfusion.

a. Judicious intravenous fluid resuscitation is the essential and usually sole intervention required.
b. The crystalloid solution should be isotonic and the volume just sufficient to maintain an effective circulation during the period of plasma leakage.
c. Plasma losses should be replaced immediately and rapidly with isotonic crystalloid solution or, in the case of hypotensive shock with colloid solutions.
d. Blood transfusion should be given only in cases with suspected/severe bleeding
e. Give 5–10ml/kg of fresh-packed red cells or 10–20 ml/kg of fresh whole blood at an appropriate rate and observe the clinical response. Consider repeating the blood transfusion if there is further blood loss or no appropriate rise in haematocrit after blood transfusion.
f. There is little evidence to support the practice of transfusing platelet concentrates and/or fresh-frozen plasma for severe bleeding, but it may exacerbate the fluid overload.
h. Platelet concentrate / FFP are indicated when massive bleeding can not be managed with just fresh whole blood/fresh-packed cells.

Treatment of shock

1. Start intravenous fluid resuscitation with isotonic rystalloid solutions at 5–10 ml/kg/hour over one hour. Then reassess the patient's condition
2. If the patient's condition improves, intravenous fluids should be gradually reduced to 5–7 ml/kg/hr for 1–2 hours, then to 3–5 ml/kg/hr for 2–4 hours, then to 2–3 ml/kg/hr, and then further depending on haemodynamic status, which can be maintained for up to 24–48 hours
3. If vital signs are still unstable, check the haematocrit after the first bolus. If the haematocrit increases or is still high (>50%), repeat a second bolus of crystalloid solution at 10–20 ml/kg/hr for one hour. After this second bolus, if there is improvement, reduce the rate to 7–10 ml/kg/hr for 1–2 hours, and then continue to reduce as above.
4. If haematocrit decreases compared to the initial reference haematocrit (40% in children and adult females, <45% in adult males), this indicates bleeding and the need to cross-match and transfuse blood as soon as possible

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3. Carme B, Sobesky M, Biard MH, Cotellon P, Aznar C, Fontanella JM. Non-specific alert system for dengue epidemic outbreaks in areas of endemic malaria. A hospital-based evaluation in Cayenne (French Guiana). Epidemiol Infect. 2003 Feb;130(1):93-100

Alternative BMT donors

Dr Tahir Shamsi MBBS, FCPP, MRCPath, FRCPath. Adjunct Professor of Haematology. Director, Stem Cell Program. Consultant Haematologist & Transplant Physician, National Institute of Blood Disease & Bone Marrow Transplantation. ST-2/A, Block-17, Sir Shah Sulaiman Road, Gulshan-e-Iqbal Karachi, Pakistan

Fifty to seventy five percent eligible patients in need of bone marrow transplant do not have HLA identical sibling donor worldwide. Despite of large family size, average 4.6 siblings per household, 49.7% patients could not find a match, culminating their demise. Alternatives are that volunteer marrow donors are registered nationwide or umblical cord blood banks are set up and should maintain an inventory of over 30,000 donors/bags. Then there will be a realistic chance for another 25-35% patients to find a matched donor. Pakistan does not have the culture of voluntary blood donation, let alone volunteering for organ donation. There is no cord blood bank in public or private sector. This forces Pakistani BMT centres to follow China, Japan and Korea where mothers donate bone marrow for their kids. Immune system of mothers and children recognise and tolerate each other well because of their acquaintance during pregnancy. This makes Moms an attractive alternate/suitable donor in the absence of a matched sibling. NIBD is collaborating with the Hyogo Medical University Transplant Program in Japan to start Haplo transplant (from mothers) in Pakistan this year. This collaboration will open avenues for bone marrow transplant candidates and will save thousands of lives. NIBD transplant team will visit Japan for training in next few weeks.

Accreditation for Clinical Haematology at Armed Forces Bone Marrow Transplant Centre, Rawalpindi

Armed Forces Bone Marrow Transplant Centre (AFBMTC), Rawalpindi has recently been granted full accreditation for the newly recognized specialty of Clinical Haematology by the College of Physicians and Surgeons Pakistan. Candidates fulfilling CPSP criteria for enrolment will need to apply for training through AFBMTC to the Surgeon General Pakistan Army.

AFBMTC is involved in autologous and allogeneic hematopoietic stem cell transplantation, intensive chemotherapy for hematological malignancies and treatment of non-malignant hematological disorders. The hospital has outpatient and day-care facility, indoor department and laboratory for hematological workup and basic chemistry along with supporting departments including kitchen, pharmacy etc. Established in 2001, it is the only public sector facility of its kind and carries the distinction of having performed the maximum number of transplants in the country. Overall the centre has the capability of doing 50 transplants per year and more than four hundred allogeneic transplants have been carried out so far. In addition to Clinical Haematology, AFBMTC is recognized for providing training for the following:

a. MD in bone marrow transplantation: This is a two year post fellowship program that is being carried out in collaboration with the Armed Forces Postgraduate Medical Institute (AFPGMI), Rawalpindi, Pakistan under the auspices of Quaid e Azam University, Islamabad. It is directed at candidates who have fellowship or equivalent degree in hematology, medicine or pediatrics and wish to pursue a career in bone marrow transplantation. Applications are to be made to AFPGMI and applicants fulfilling eligibility criteria are required to pass the entry examination and interview. Further details are available at AFBMTC.
b. Rotational training for FCPS Medical Oncology
c. One year post basic course in Bone Marrow Transplant nursing
d. Rotational training for Oncology nursing and Critical Care nursing course

5th FCPS Haematology Intensive Course (Nov. 16 – 19, 2011)

Haematology and Transfusion Medicine Division of The Children's Hospital & the Institute of Child Health, Lahore in collaboration with Pakistan Society for Haematology (PSH) & College of Physicians & Surgeons of Pakistan (CPSP) have arranged FCPS Haematology course from 16-19,2011. Eminent teachers, examiners and leading Haematologists of the country will supervise this course. Only Final year residents will be allowed to attend this course on first come first serve basis.

For Registration please contact: Dr. Irem Iqbal (0336-4212303), Dr. Muhammad Buksh (0333-3972009), Muhammad Munir (0332-4670594)

PSH News

ASH Annual Meeting and Exposition

December 10-13, 2011 San Diego, CA (page down loaded from website)

The American Society of Hematology (ASH) invites you to San Diego for our 53rd annual meeting. This event offers invaluable benefits for all attendees, including:

The opportunity to grow professionally: Hematology is a constantly changing field, and ASH's Education and Scientific Program can help you stay up-to-date on the latest research, therapies, and tools you need to succeed.

The meeting offers many networking events that will allow you to connect with colleagues and interact with leaders in the field to learn and share your ideas.

Monthly meeting of Pakistan Society for Haematology (PSH) Lahore chapter: Meeting was held on Tuesday July 5, 2011 at Haematology & Transfusion Medicine Division of The Children's Hospital & the Institute of Child Health, Lahore. A large number of Haematologist & Residents Haematologist attended the meeting. In the meeting two very interested cases were presented by Dr. Rabia Ahmed from Allama Iqbal Medical College, Lahore and Dr. Muhammad Buksh Khan from The Children's Hospital Lahore. These cases generated a lot of interest among the participants & meeting ended at cup of tea.

Note: PSH, Lahore chapter meeting is held on first Tuesday of the month.

PSH Text Book of Haematology:

Prof Khalid Hassan

Dear Colleagues,

Thank you very much for accepting to write a chapter in the proposed "Text book of Haematology". It is a pleasure for me to inform you that in a recently held meeting of the editors of the book under the chairmanship of the President PSH, Maj Gen Suhaib Ahmed, it was decided as under:

1. The book will be titled as "PSH Text Book of Haematology"
2. The book will cater for the needs of undergraduate medical students. However, it should also be useful for:

a. The doctors working in clinical units as house officers, registrars and medical officers
b. Those preparing for Part I FCPS examination
c. Postgraduate students, especially of DCP and MCPS, and also as a fundamental Haematology Book for FCPS and MPhil Haematology students
d. B.Tech (medical technology) student

3. While discussing various subjects, Pakistani perspective should be highlighted, especially keeping under consideration the locally published data
4. The text, tables, figures, graphics and photographs must be original. For this, an undertaking will be submitted by the authors. If some tables and figures have to be copied, permission must be taken to avoid copyright violation
5. In every chapter, after an introductory paragraph, the text should be given under various headings according to the need, e.g. classification, aetiology, pathogenesis, manifestations, genetics, lab diagnosis, managements, etc. But understandably, these headings will vary according to the requirement
6. At the end of the chapter, bibliography will be given (in Vancouver style). The references may not be mentioned in the text
7. The last date for submission of the given chapter will be 31st December 2011

I request you to kindly go ahead with the write-up, and submit it through email by the last date for submission. If there is any query, please don't hesitate to contact me

With the deepest regards and the best wishes,

Yours Sincerely,
Prof Khalid Hassan
Cell No: 0333-5178210

About PSH

Pakistan Society of Hematology (PSH) is a non-political, non – sectarian Govt registered organization consisting of hematologists of Pakistan. PSH promotes the advancement of hematology including transfusion medicine, through encouragement of research, improvement of teaching & technical methods, organization of scientific meetings, publication of scientific material, and is affiliated with other National & International organizations. PSH also provides forum for the persons practicing hematology and transfusion medicine to discuss problems and to formulate agreed viewpoints at National and International forum. Membership (1). Members: MBBS or equivalent plus post graduate qualification in hematology/transfusion medicine and show evidence of active work in hematology during the last three years including the period spent in training for post graduate examination in hematology/transfusion medicine. (2). Associate members: Those who possess the prescribed for a member but not completed three years of active work in hematology (3). Junior members: Registered students of postgraduate training in hematology/transfusion medicine for at least one year. (4). Corporate members: Those with MBBS qualification and have keen interest in hematology, and become members on payment of Rs 500 per annum. They will not be eligible for vote or contest of any office.

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Your views and news

DEAR COLLEAGUES : Your contributions to PSH newsletter are backbone to its success. Please send short communications, case reports, scientific activities

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