

## Letters to the Editor

*[The Editor is not responsible for the views expressed by the correspondents]*

### **Family Physicians : Have we lost them?**

SIR, — Once Upon a time, society was known to have a good number of Family Physicians who were part and parcel of the healthcare system of family structure in Indian society. A Family Physician is an aptly trained & skilled clinician who has an expert knowledge of a wide range of common health problems which are small, transient and more prevalent. A Family Physician attends patients with his private practice in a local community and takes care of primary and less common but life threatening and treatable emergencies also in patients of all age group and in their family. Family Physician provide healthcare services based on best scientific evidences. These evidences are integrated sensitively, skilfully and after appropriate search for prevailing patterns of disease. This way Family Physician comprehends an effective management of diseases on OPD basis at a very affordable costing to end user to keep them healthy.

In last few decades concept of Family Physician or general practice is thinned. Times are gone of family Physician as once society used to this grass root level Doctor . And now the scene is reversed as society has ample number of Consultants/Specialists and super specialists. Time is ripe to have high end techno-savvy and intervention oriented super physicians and super Surgeons. But in process of becoming a high-end Doctor, this concept of Family Physicians has seen a downtrend. The Doctor attending families on a regular basis was a cushion between the consultant and home Remedy Treatment protocol. He was a cushion between early diagnostic treatment and high-end investigation in hospitals. He was a cushion between small and trivial surgical repair works and high-end surgical interventions. He was a cushion between early detection of crucial disease and late-stage expensive treatment. He was a cushion between economical, cure protocol and expensive corporate hospital protocol. He was instrumental in keeping a family Profile of his patients and families and patterns to detect disease early enough. He was instrumental in attending the patient all through the day and get a proper treatment done at a very affordable price. Due to lost Family Physician now society has lost faith in Doctor in general. Battery of investigation and referral to consultants have made holes in the pocket of the patients. Remaining damage has been done by mushrooming of corporate hospitals. High end Hospitals have their sole Motto of money making only and getting their company listed to stock exchanges or to concentrate on growth in topline & bottomline in their balance sheet. Poor status of Government hospitals with respect to human resources and availability of medicines have been a long-lasting stand and leading to poor societal status of health providing services. Need of the hour is to revive this institution of Family Physician in society where people can avail basic

and primary treatment at minimal cost. Many MBBS graduates who don't get postgraduate admission may opt to have a Family Physician establish their practice in small town area which attract rural population for their market needs. Many quacks and medical shop owners are having a shadow practice in this way only in rural areas. Such half cooked Medical man have generated a pattern of malpractice which leads to delayed diagnosis and delayed referral to higher centres in case of major diseases costing much to the end user.

Religious or Societal institutions may come forward who have community halls where in a room for daily OPD can be spared. These rooms may accommodate Family Physician on salary or on rental basis to extend Sharing of knowledge and medicines. This way, society will incorporate Family Physician who can serve to have early diagnosis of critical situations and refer critically ill patients to higher centres. Primary Health centres in Government sector are barely fulfilling their duties because of lack of human resources and infrastructure and above all their remote locations and difficult access. Recruited Doctors join these remote PHCs and leave as there is no residential Building or other institutions. Neither it's possible to have all facilities at such PHCs. A residential House and good salary with the team of paramedics will enhance the moral of new graduates to work in such grave situations at such remote postings. Neither Doctors nor school teachers join for such rural postings and this situation continues to serve sequentially. Need is to recruit such fresh medical Graduates who are from a rural background and are willing to serve in their home district or in Hometown or even in their PSC village where from they can look after even their farmland as well. The understanding of Medical Profession as a cash crop has ruined the whole structure of medical education as its very cost driven affair nowadays. One me ask why and how? The answer is simple. No doubt Private Medical Colleges have cashed in, on demand of social status lying behind a medical degree to their ward and generate high profile on intellectual, social and financial scale in a single shot. Social reformation in field of medical education must be incorporated, one day or the other, as a student from low Socio-economic strata or from peasant society will generate in altogether different societal and familial bondage which at this moment, we are losing. Family Physician is an axis around which family and secondary-Tertiary level hospital run around. Nowadays, rushing into a corporate hospitals for small and trivial ailments, ultimately leads to too expensive outcome. And thereby generating an uproar that Doctors are dacoits and looters. That's the wrong narrative. And this is because of possibility of lost entity of Family Physician. Let's turn around and move to our local Family Physician.

President, IMA, Indore

**Dr Anil Bhadoria**

## Dengue & Platelets

SIR, — The Dengue fever is now slowly become a pandemic in the third world countries. It can spread to human beings by a bite of an infected *Aedes* mosquito. It has two variants i.e. *Aedes aegypti* and *Aedes albopictus*. About four billion people, nearly 1/2 of the world's humans live in areas with a risk of dengue. Zika, Chikungunya and other viruses are additionally spread by using these mosquitoes.

Dengue is caused with the aid of one of any four related viruses: Dengue virus 1,2,3 and 4 for this reason, an individual can be contaminated with dengue virus as many as four instances in his or her lifetime.

These mosquitoes normally lay eggs near standing water in containers that preserve water, like buckets, bowls, animal dishes, flower pots, and vases. These mosquitoes decide upon to bite people, and stay both indoors and outside near people. Mosquitoes that unfold dengue chew throughout the day time. Mosquitoes grew to become infected when they bite a person infected with the virus. Infected mosquitoes can then spread the virus to different people thru bites.

A pregnant girl already contaminated with dengue can omit the virus to her fetus throughout pregnancy or around the time of birth. To date, there has been one documented document of dengue unfold through breast milk. Because of the advantages of breastfeeding, moms are encouraged to breastfeed even in areas with hazard of dengue.

Rarely, dengue can be unfolding via blood transfusion, organ transplant, or through a needle stick injury.

### Symptoms :

- Mild symptoms of dengue can be burdened with other illnesses that cause fever, aches and pains, or a rash.

**The most frequent signs and symptoms of dengue are fever with any of the following :**

- Nausea, vomiting
- Rash
- Aches and pains (Eye pain, typically behind the eyes, muscle, joint, or bone pain)

Symptoms of dengue typically remaining 2-7 days. Most people will get better after about a week.

- Warning symptoms and signs and symptoms of extreme dengue normally commence in the 24-48 hours after your fever has long past away.

**The extreme signs of dengue are as following :**

- Belly pain, tenderness
- Vomiting (at least three times in 24 hours)
- Bleeding from the nose or gums
- Vomiting blood, or blood in the stool
- Feeling tired, restlessness or irritable

### Treatments :

There is no unique medicine to treat dengue, deal with the signs of dengue.

- Rest as a great deal as possible

- Take paracetamol pill to control fever and relieve pain.

- Do not take aspirin
- Drink plenty of fluids to remain hydrated. Drink water or drinks with introduced electrolytes.
  - For moderate symptoms, care for an ill infant, child, or household member at home.

Symptoms of dengue can come to be severe inside a few hours. Severe dengue is medical emergency. It requires immediate clinical care at a nursing home or hospital.

### Dengue Testing :

To realize the presence of dengue virus in blood, you want to bear some definitive exams which includes;

- Dengue NS1 Antigen
- Immunoglobulin M (IgM)
- Immunoglobulin G (IgG)
- Dengue RNA PCR Test

### Engue Vaccine :

There is a growing public fitness need for nice preventive interventions towards dengue, a disease caused by using four viruses, termed serotypes 1-4. A safe, fine and low cost dengue vaccine in opposition to the 4 strains would characterize a foremost strengthen for the control of the sickness and ought to be an important device for achieving the WHO intention of decreasing dengue morbidity by means of at least 25% and mortality with the aid of at least 50% by 2020. One dengue vaccine has been licensed, Dengvaxia (CYD-TDV), developed by means of Sanofi Pasteur. Approximately 5 extra dengue vaccine candidates are in medical development, with two candidates (developed with the aid of NIH/Butantan and Takeda) now in Phase III trials.

CYD-TDV was first licensed in Mexico in December 2015 for use in persons 9-45 years of age living in endemic areas, and is now licensed in 20 countries. CYD-TDV given as a three dose series on a 0/6/12-month schedule.

### Platelets:

Platelets are the smallest formed factors in blood, a disk shaped, non-nucleated aspect with fragile membrane produced in the bone marrow through fragmentation of megakaryocytes. A normal human being has a platelet remember between 1.5 lakhs and four lakhs. The low platelet counts in the blood brought about via the Dengue virus destruct the capability to blood clot and make it unable to fight infections. Individuals having dengue has experienced a considerably fall in platelet count to around twenty to forty thousands.

The platelet remember is low due to Dengue virus because of the following:

- Suppression of bone marrow, consequences drop in the production of platelets.
- The blood cells, which are affected by way of the dengue virus has the ability to harm platelets, so the healthy platelets are also damaged.

• Now the antibodies which are produced at some stage in this time caused a big destruction on platelets.

#### Molecular Response of Platelets to Dengue :

Platelets are anucleated blood cells that are derived from the bone marrow. The alpha granules contents of platelets are rich in cytokines such as CXC Motif Chemokine Ligand, CCL 53, and transforming growth factor TGF. The release of contents into the plasma can be caused by the activation of platelets. The human immunodeficiency virus HIV H1N1 is one of the most common causes of platelet activation. The release of the cytokines CCL8 and CCL5 promotes the development of a pro inflammatory state along with the recruitment of other immune cells to the site of the infection. The interaction between Platelets and Monocytes and Neutrophils increases inflammation. The key regulators of the replication and propagation of several viruses in the host are known as platelet factor PF4 CCL5 and fibrinopeptides. Studies show that CXCL4 can increase the risk of HIV1 infections. Data from our lab shows that CXCL4 has a significant effect on the interferon IFN pathway and on the DENV replication in monocytes. Increased IFN production and suppression of DENV and JEV in monocytes can be achieved by blocking the CXCL4 signalling.

There is a key role played by platelets in the suppression of the disease. There are regulatory roles for cytokines, which are released from alpha granules. The CCR1CCL2 axis plays an important role in the pathogenesis of the disease while the CCR1CCL5 axis has a protective role. There was a year in 2014, a study suggests that low levels of CCL5 and high levels of CXCL8 could be a marker for severe Dengue disease. There is an increase in the expression of Eselectin on the endothelial cells after the DENV infection. Eselectin and Pselectin help in the attachment of the platelets to the endothelial cells. Pselectin is expressed on the surface of activated platelets and promotes interaction of platelets with monocytes and neutrophils. The cells of the

erythrocytes that are involved in the production of CXCL8 IL6 CXCL10 and CCL5 are found in the body of a person. The cells contribute to the total cytokine pool. These cytokines help in increasing the permeability of the blood vessels in the body, which in turn leads to inflammation and the development of the disease.

#### Conclusion :

Now, an eminent physician discovered that using fluids and platelets in an illogical way can do more harm than good to patients. A real catastrophe has occurred after the platelet infusion, the body's inflammatory response increases, and the patient's condition becomes very serious due to the release of cytokines, causing a cytokine storm in the body's immune system, leading to cardiac arrest, heart failure, etc. So, Judicial use of fluid, plasma & platelets should be done for the betterment of patients.

#### FURTHER READING

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<sup>1</sup>MBBS (Cal), DPH (Cal),

M PHIL RMTS (CSTM, WBUHS)

<sup>2</sup>BSc Microbiology, MSc Forensic Science,

M PHIL RMTS Student (CSTM)

**Dr Amitabha Bhattacharya<sup>1</sup>**

**Anwesh Ghosh<sup>2</sup>**

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