

to provide best possible protection to an individual child. It may not always be feasible to apply these guidelines *in-toto* while designing a mass, national level vaccination program. The logistics, cost and other operational issues may override other considerations. Combination vaccines have several advantages like fewer injections, better compliance, reduced requirement of syringes and needles, reduced burden on cold chain, and easier record-keeping. In fact, they are more 'program-friendly' than single antigen products. IAP also prefers combination vaccine over separate injections of its equivalent component vaccines [1]. Regarding the booster of Hib vaccine, IAP has recommended its use in its schedule; however, the Government of India (GoI) has not yet included it in their National Immunization Schedule, mainly because of programmatic considerations. They also believe the current epidemiology of Hib disease in the country does not warrant a booster dose.

The issue regarding safety of pentavalent vaccine has been critically analyzed at various fora, including in the IAPACVIP. The GoI and WHO have cleared this vaccine as no causal association between administration of the vaccine and death of children could be found so far. Following a detailed discussion and analyzing all the available evidences, the Academy has also issued a

statement in the favor of the safety of pentavalent vaccine [2]. After getting reassurance on the safety of this vaccine, the GoI has recently decided to broaden the coverage of the vaccine to all other States of the country not covered so far. The lack of an effective AEFI surveillance system uniformly all over the country, and poor routine immunization coverage of many States were the reasons why this vaccine was not launched all over the country in the first go.

VIPIN M VASHISHTHA

Convener, IAP Advisory Committee on Vaccines and Immunization Practices (ACVIP).  
vipinipsita@gmail.com

#### REFERENCES

1. Indian Academy of Pediatrics, Advisory Committee on Vaccines and Immunization Practices (ACVIP), Vashishtha VM, Kalra A, Bose A, Choudhury P, Yewale VN, Bansal CP, *et al.* Indian Academy of Pediatrics recommended immunization schedule for children aged 0 through 18 years, India, 2013 and updates on immunization. *Indian Pediatr.* 2013;50:1095-108.
2. IAP Statement on Safety of Pentavalent (DTwP-HepB-Hib) Vaccines. Available from: [http://www.iapindia.org/cgi-bin/dada/mail.cgi?f=file\\_attachment&id=20130910141751&filename=IAP%20Statement%20on%20Safety%20of%20Pentavalent%20Vaccines.docx&list=iaPmainlist](http://www.iapindia.org/cgi-bin/dada/mail.cgi?f=file_attachment&id=20130910141751&filename=IAP%20Statement%20on%20Safety%20of%20Pentavalent%20Vaccines.docx&list=iaPmainlist). Accessed January 29, 2014.

## Mycotic Aneurysm Rupture in Klebsiella Endocarditis

Damage to the vasa vasorum of blood vessels due to vasculitis may result in the formation of cerebral mycotic aneurysm that can rupture and result in massive intracranial bleeding. We report an adolescent boy who presented with hemorrhagic stroke due to ruptured mycotic aneurysm associated with *Klebsiella* endocarditis of aortic valve cusps.

A 14-year-old boy presented with right hemiparesis and aphasia with a history of fever, joint pain, palpitations and left sided chest pain. His blood pressure was more than 95th percentile; fundus examination showed multiple superficial and deep hemorrhages. He had anaemia, polymorphonuclear leukocytosis, elevated ESR, elevated ASO titer and positive C-reactive protein. Blood culture reported growth of *Klebsiella pneumoniae*.



**FIG. 1** CT angiogram demonstrating intracerebral bleeding in the left parieto-occipital lobe with outpouching in the distal branch of left middle cerebral artery suggestive of ruptured mycotic aneurysm.

Renal profile, coagulation profile and renal doppler studies were normal; anti-nuclear antibodies were negative.

2D and M-mode echocardiography revealed eccentric closure of aortic valve cusps suggestive of cusp damage and moderate aortic regurgitation. There were vegetations involving anterior aortic valve extending into left ventricle. Brain computed tomography (CT) revealed intra-cerebral bleed in the left middle cerebral artery territory. CT angiogram was suggestive of ruptured mycotic aneurysm with perifocal edema and mass effect (**Fig. 1**). The patient was managed conservatively with decongestive measures and intravenous antibiotics for 6 weeks. Neurological status of child improved with residual paresis at the time of discharge.

Mycotic aneurysm rupture often has a disastrous clinical course in which morbidity and mortality can be reduced by early diagnosis and appropriate antimicrobial therapy [1,2]. *Klebsiella* endocarditis, though rare, can have far more devastating consequences [3]. Current management options for mycotic aneurysm include medical, surgical and endovascular therapy. Solitary mycotic aneurysm is known to resolve with medical therapy and surgical intervention is reserved only when

these are multiple, enlarging or not responding to conservative treatment [4].

*Acknowledgements:* Dr Sachin Mukundan Unny and Dr Monika Lazrus.

**SUMI M PILLAI AND VK BHARADWAJ**  
*Department of Pediatrics,*  
*NSCB Medical College,*  
*Madhya Pradesh, India.*  
*vrind\_b@rediffmail.com*

#### REFERENCES

1. Singla V, Sharma R, Nagamani AC, Manjunath CN. Mycotic aneurysm – A rare and dreaded complication of infective endocarditis. *BMJ Case Rep.* 2013; doi 10.1136/bcr-2013-200016.
2. Regelsberger J, Elsayed A, Matschke J, Lindop G, Gryzyska U, Vanden Boom L, *et al.* Diagnostic and therapeutic considerations for “mycotic” cerebral aneurysms: 2 case reports and review of the literature. *Cent Eur Neurosurg.* 2011;72:138-43.
3. Anderson MJ, Tanoff EN. *Klebsiella* endocarditis: Report of two cases and review. *Clin Infect Dis.* 1998;26:468-74.
4. Venkatesh SK, Phadke RV, Kalode RR, Kumar S, Jain VK. Intracranial infective aneurysms presenting with haemorrhage: An analysis of angiographic findings-management and outcome. *Clin Radiol.* 2000;55:946-53.

## Papaya Leaves in Dengue Fever: Is there Scientific Evidence?

With the recent dengue outbreak, the use of papaya leaves as natural cure for dengue has received much interest among the public, and in the lay press [1]. Being easily available and affordable, the use of papaya leaves occurs indiscriminately. The physician however remains unclear of his or her stand on the issue.

The therapeutic effects of aqueous extract of papaya (*Carica papaya*) leaves are presumed to be due to several active components such as papain, chymopapain, cystatin, L-tocopherol, ascorbic acid, flavonoids, cyanogenic glucosides and glucosinolates. These are antioxidants that reduce lipid peroxidation, exhibit anti-tumor activity and immune modulatory effects [2]. Animal studies suggest that papaya leaf extracts have potential therapeutic effect on disease processes causing destabilization of biological membranes as they inhibit

hemolysis *in vitro* [3] and may cause increased platelet and red blood cell counts [4]. A recent open-labelled trial from Malaysia demonstrated significantly higher platelet count after 40-48 hours of first dose of papaya leaves' juice [5]. Others have also reported encouraging findings. In spite of these small scale studies, the fact remains that dengue is a mostly a self-limiting disease with spontaneous increase in platelets during recovery.

The role of papaya leaves cannot be scientifically substantiated based on a few positive preliminary reports. The need of the day is to commission high quality trials in humans to provide scientific evidence for or against papaya leaves. Herbal products are assumed to be safe because they are natural, but this assumption cannot be valued more than mere conventional wisdom. As reported, anticoagulant effect of warfarin was found to be potentiated after consuming an extract of *Carica papaya* [6].

The purpose of this communication is not to raise questions on the use of herbal products for disease management, or to belittle the patients' efforts to use all available measures, whether approved or not, to alleviate