titers of IgG measles antibodies detected by enzymelinked immunosorbent assay in CSF. Both children died over next one month.

In regions where SSPE is still common, we should be cautious before using immunomodulation in presumed autoimmune encephalitis. Diagnosis of SSPE is mainly based on clinical presentation, supported by elevated CSF measles antibody titers [2]. Autoimmune encephalitis clinically manifests with alteration of consciousness and/or behavioral changes, which may be associated with seizures, movement abnormalities and/or focal neurological deûcits. While in SSPE, the initial symptoms are usually subtle, include mild intellectual deterioration and behavioral changes without any apparent neurological signs; this is followed by steady motor decline and myoclonus [1-3]. However, some cases of SSPE have an acute presentation with death occurring in few weeks. Retina-, EEG- and MRI findings help to distinguish SSPE from AE. The most characteristic ophthalmic findings in SSPE are optic nerve head edema, retinal pigment epithelial changes, active or scarred chorioretinitis, and optic atrophy [4]. Periodic EEG complexes are pathognomonic features of SSPE but are not seen in all individuals [2]. In the early stages, MRI findings are normal, or cortical/subcortical asymmetrical hyperintense lesions may be observed in

# Galactomannan Antigen Test for Invasive Aspergillus Infection in Febrile Neutropenic Children

Kumar, *et al.* [1] published their findings on Galactomannan antigen test for early diagnosis of invasive aspergillus infection in a recent issue of *Indian Pediatrics* [1]. The article was interesting and I seek certain clarifications:

- 1. What were the sites from which authors were able to isolate aspergillus for proven invasive fungal infection?
- 2. What were the species? Was sensitivity testing performed on all the isolates? Did authors come across any species which was resistant to voriconazole/ amphotericin B?
- 3. Authors mentioned that antibiotics like piperacillintazobactam can lead to false positive galactomannan

the posterior parts of the brain. As the disease progresses, the lesions disappear and new lesions occur symmetrically in the periventricular white-matter in association with mild cortical atrophy [2]. Apart from these findings, CSF examination for antibody provides definite diagnosis of both SSPE and AE.

To conclude, when in doubt it is better to withhold immunosuppression with methylprednisolone till we get the confirmation of a diagnosis of autoimmune encephalitis.

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test; it has been shown to be no longer cross-reactive [2].

- Did some of the patients in this study have pulmonary leucostasis/hyperleukocytosis which could have led to a false impression of a fungal nodule or ground glass opacities on computed tomography.
- 5. Authors mentioned that they were not able to perform bronchoalveolar lavage (BAL) on patients due to thrombocytopenia; did they attempt the procedure when the platelets improved, at the end of induction therapy or on recovery from the febrile event. It is wellestablished that BAL galactomannan is more sensitive as well as specific for invasive fungal infections [3].

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## **AUTHORS' REPLY**

We thank the authors for showing interest in our article. The clarifications to the concerns raised are as follows:

- 1. In the 'proven' category of invasive fungal infections, none of the isolate was Aspergillus. Fungi isolated from blood were *Candida albicans*, *Candida tropicalis*, and *Trichosporon spp*.
- 2. Out of 11 isolates from sputum, *A. fumigates* was positive in seven and *A. flavus* was the species in four patients. The antimicrobial sensitivity details are not available.
- 3. The authors rightly stated that current literature argues against cross-reactivity of Galactomannan (GM) antigen test and the new EDTA-containing piperacillin/tazobactam formulation. However, in low- and middle-income countries where generic

formulations are widely used, it remains a valid concern. A recent study had shown that the rate of false positive serum GM antigen test was as high as 56% in patients who received generic preparation [1]. With standard brands, the association is no longer applicable, but false positive can still be there with generic medicines [2].

- 4. We agree that pulmonary leukostasis may lead to a false impression of a fungal nodule or ground-glass opacities on computed tomograph (CT) scan. In our study, three patients had hyperleukocytosis but none of them had evidence of fungal infection on CT scan.
- 5. We did not perform bronchoalveolar lavage (BAL) after recovery as baseline information on BAL was not available. We agree that GM antigen testing from BAL is more sensitive as well as specific for invasive fungal infections.

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## Therapeutic Hypothermia using Phase changing Material in Indian Neonates

This refers to the large multicentric trial conducted in India, and recently published in *Indian Pediatrics* [1]. I have few concerns related to this paper. To begin with, the ambient temperature in the neonatal intensive care unit (NICU) in any of the centers was not mentioned in the study, which is very important for the Phase changing material (PCM) to work effectively [2]. The time taken to reach the target temperature was longer (120 minutes) but the fluctuation was less (0.39) in this study as compared to other large trials. The mean age of initiation of cooling (2.9 hours) was impressive as average time taken to reach hospital in out-born babies in Indian scenario ranges from 2-5.6 hours [3], and less than 30% of babies reach within 6 hours of life [4]. It would be worth knowing the number of inborn and out-born babies in each center. Three out of 103 babies with mild encephalopathy were cooled when they were not eligible for the intervention.

The discussion of the study mentions that it had only 10% (results showed nearly 19%) of babies with severe encephalopathy as compared to 60% in TOBY trial [5], which is a huge difference as we know that babies with severe insult have multiorgan dysfunction creating doubts about authors' claims of PCM to be safe and feasible. Lastly, the study was partly funded by a manufacturer of PCM, which could have possibly, but not necessarily, influenced the interpretation of study results. It also raises the question when the results mention that PCM is

INDIAN PEDIATRICS