Reservations have been expressed on the relevance of vaccination for control of typhoid in India(2). Typhoid is very prevalent in whole of India. Everyone knows about typhoid as a common disease which has affected atleast one family member over 20 years time. The disease is in the memory of everyone due to its characteristic fever lasting for over 3 weeks, damaging consequences and high cost of treatment.

Typhoid vaccine was withdrawn from the UIP of Government of India in 1985 since the whole cell typhoid vaccine available at that time was highly reactogenic and provided very low protective value. The withdrawl of typhoid did not signal the significance of typhoid in India. Epidemiologists in affected countries would like to see control of typhoid by vaccination of over 60-70% population from the current levels of 4-5% only. Vaccination is at least 10 times cheaper and will save innumerable man days lost, doctor's time, and hospital space, and the pain and suffering etc.

The launch of Vi conjugated typhoid vaccine (Peda Typh^{TM}) is expected to bring an end of age old disease of man, since *Salmonella typhi* has no other host except man as was the case with smallpox virus.

Competing interests: Author is an employee of Bio-Med(P) Ltd, which manufactures Peda Typh.^{TM}

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Drugs for Cardiac Diseases

Working group deserves appreciation for such a comprehensive article on management of various important cardiac problems(1). However few issues need clarification:

1. Inspite of better and safer drugs being made available, unfortunately digoxin is still the most commonly used medicine for heart failure in clinical practice. And this has been endorsed by you by keeping digoxin at first place among all. Interestingly later on you have mentioned ACEi as first line drug(1).
2. For hypertension, how much time one should wait, if BP is not being controlled by one drug, before adding the second one.
3. My last and most serious concern is regarding dopamine. Indications of dopamine listed are – to improve renal perfusion, birth asphyxia and myocardial ischemia. Renal dose of dopamine is obsolete(2), rather it may be harmful. For remaining two indications references given are of 1978 and 1979! Millions of gallon of water has passed under the bridge since than. Dopamine, now, known to be most tachy-arrhythmogenic among all vasopressors(3), then how this drug can be indicated for myocardial ischemia?
4. Dopamine reduces gastric mucosal pH, adversely affects blood flow at microcirculation level, increases pulmonary shunt and causes immunosuppeession then perhaps it would be more detrimental to the asphyxiated babies.
5. Management algorithm for septic shock describes only hypotensive patients. Hypotension occurs very late and represents uncompensated state. Whereas in pediatric septic patients normotensive, low cardiac output, high SVR shock is more common(4). Drug recommended for such shock is dobutamine(4). For treatment of pediatric hypotensive shock though many authorities still recommend dopamine as the first line drug, but its age related insensitivity(5) and if not superior than at least similar hemodynamic profile of norepinephrine makes norepinephrine a preferred choice.

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REPLY

1. We agree that digoxin is not the number one drug for treatment of heart failure. Our article reiterates the same fact providing the scientific basis for it.
2. It is difficult to provide a time frame as to when to add a second drug for control of hypertension. These decisions have to be taken by the physicians for individual patients and our article only provides guidelines.
3. We agree with Dr Bansal that the concept of reno-protective low dose dopamine has been challenged in several studies(1,2). As mentioned in our article, dopamine, at low doses, increases renal blood flow by its action on dopaminergic receptors with minimal effect on cardiac output or heart rate(3). Dopamine infusion has been shown to increase renal plasma flow during norepinephrine administration in adults(4,5). Two recent reports have further confirmed the beneficial effect of low dose dopamine on renal blood flow(6,7). Dopamine continues to be used in routine practice especially following cardiopulmonary bypass.
4. Regarding his comment on adverse effect of dopamine on gastric mucosal pH, increase in pulmonary shunt and immunosuppression, we would be very interested in the exact cross references.
5. The septic shock patients are hypotensive by definition and hence the algorithm is catered towards such cases. The comment on high SVR shock is well taken.

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