

Personal View

Fever panic

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Sri Lanka Journal of Child Health, 2000; **29**: 97-8

(Key words: Fever)

During the first six months of the new millennium, there have been two widespread outbreaks of viral fever, self-limiting and free of complications, but unfortunately causing panic in households as well as in doctors. An attempt is now being made in this personal view, to allay fears in doctors and hopefully through them, in households regarding acute onset fevers. Apart from paracetamol what else can a doctor advise without resorting to inappropriate treatment with antibiotics?

This article concerns a child who hitherto was well and who develops a fever with perhaps mild general symptoms like lassitude, occasional unformed stools, runny nose, sore throat, mild cough, chills, food refusal and diminished childhood activity, but with no abnormal physical signs in every system. This article is not about ill-looking children, with significant diarrhoea, vomiting, reduced urine output, altered sensorium, stiff neck, grunting or altered respiration, severe abdominal pain, tenderness and guarding, hepatomegaly, abnormal chest signs, lymphadenopathy or evidence of any obvious bacterial infection. It is about a well child with fever and little else.

Fever causes panic even in the best regulated families. Regulation of body temperature is achieved by balancing heat production and heat loss. The hypothalamus is the control centre. The body temperature is maintained in health at a set point. In fever, this set point is elevated and antipyretics promote its return to normal. In fever there is increased formation of cytokines and this induces synthesis of prostaglandins. During fever there is a biosynthesis of pro-inflammatory, proalgesic prostaglandins PGE₂ and PGI₂. Prostaglandins are released when cells are damaged and cause increased blood flow and erythema. Antipyretics inhibit the biosynthesis through enzymes, namely cyclooxygenase¹. Non-steroid anti-inflammatory drugs (NSAIDs) inhibit different types of cyclooxygenase, and therefore the biosynthesis².

The vast majority of acute onset fevers are caused by virus invasion. If this is constantly borne in mind, a careful examination of every child with fever will help the doctor to decide whether there is a bacterial infection or not. It is an unacceptable practice to give an

antibiotic in the absence of any evidence of bacterial infection. Unfortunately many doctors prescribe antibiotics for every child with fever, often causing further morbidity. Dozens of children who were afflicted with the obvious "Flu syndrome" during the last epidemic were given antibiotics. Every household has paracetamol and some doctors feel inadequate to advise this "home-remedy". Such doctors prescribe antibiotics often.

What then can a doctor do? Obviously kind words and paracetamol do not always wash well with Sri Lankan parents unlike their European counterparts who generally do not panic with sudden fever and rush for medical advice immediately. Any child with nasal obstruction with a viral fever will benefit from nasal or oral decongestants. "Scratchy" throats and swallowing discomfort may be allayed with frequent small warm drinks, or gargles throat lozenges, peppermints or steam inhalation.

Irritating coughs respond to fresh lemon juice and bee-honey made into a syrup, or commercial cough syrups. The occasional vomiting or nausea responds to anti-emetics, rectally or orally. High temperatures which worry a parent often respond to cooling, like a fan, tepid-water sponging, ice packs on the head or in the axilla or groin, and as much as possible of the child's preferred drink.

Paracetamol is the mainstay of treatment for fever. Recently there have been many welcome and timely public pronouncements about paracetamol, its correct use, abuse and easily induced over dosage in the printed and electronic media by eminent consultant paediatricians. The important factor is the weight of the child. Standard doses are 10 mg to 15 mg per kilogram per dose. Paracetamol may be safely used 4 to 6 hourly³ and it is wise to caution parents not to use it for mild fevers below 38.2 °Celsius (100.8 °F). A rule of thumb is that 4 doses per 24 hours are adequate.

What else can a doctor prescribe with useful and immediately relief? NSAIDs inhibit different types of cyclooxygenase with the correct therapeutic dose and for a period of 72 hours, NSAIDs are excellent symptom relieving drugs, provided there is no clinical dehydration, no renal or hepatic compromise. NSAIDs act

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by inhibiting the biosynthesis of pro-inflammatory, proalgesic prostaglandins. Which NSAIDs are safe and useful for routine 3 day use in children? "The Nemours foundation which is a non profit organisation devoted to children's health and is the largest physician practice delivering sub-speciality paediatric care in the United States" has offered considerable advice on the world-wide web⁴.

"The Nemours Foundation operates the Alfred I du Pont Hospital for Children. Serving the Philadelphia, Wilmington area and the Nemours children's clinics throughout Florida"⁴. The extensive coverage on fever in children is for world wide mass educational purposes. Paracetamol is extensively dealt with. The other antipyretic recommended is Ibuprofen. It is also registered in UK as an antipyretic⁵. The dose of Ibuprofen is 20mg/kg/day given 4 times a day. It may be used only in children over 7kg in weight. It is a short term antipyretic and should not be given for over 72 hours. A useful regimen would be continuous ibuprofen for 72 hours with intermittent paracetamol when there is great distress and high spikes of fever.

Are there any other NSAIDs which may be used safely, having eliminated the contraindications stated earlier? Mefenamic acid, now available in this country in tablet and syrup form is an excellent and safe antipyretic. It is registered in Sri Lanka⁶. For this personal view I contacted Professor M J S Langman, Professor of Medicine in Birmingham, an acknowledged world authority on therapeutic drugs and I quote his facsimile reply in full. "I have checked the UK Data sheet (a) It is specifically indicated for pyrexia in children (b) The paediatric suspension is recommended 50mg/5ml but give at 25mg/kg body weight in divided doses". No further authority is needed⁷. It is an extremely palatable and quick acting drug and in the type of child this article is about, is definitely useful.

The third NSAID which may be used is rectal diclofenac. The correct dose for this is 1-3 mg/kg/ day. This is not a drug for routine use. It is an emergency drug, not for regular use and not for children under 1 year of age. When a child has a very high fever, is restless, distressed and sleepless and refusing drinks, a doctor would be wise to prescribe a diclofenac suppository. Mothers may be carefully instructed that it is emergency treatment to be used rarely, and in the correct dose, till the hour permits a visit to a doctor. It is very useful in the midnight hours, for the temperature is controlled for many hours. It is a drug which could also be used for in-patients. It is not only useful for the child but also for the equanimity of the entire household who suffer great anxiety in a high fever situation where paracetamol has not succeeded.

What is the need for measures other than paracetamol, cooling and reassurance? Those who see children only in their consulting rooms and do not tolerate telephone access for parents are unaware of the acute anxiety provoked by a high fever during unsociable hours. If we health professionals are not available outside office hours, by telephone, parents may be desperate enough to use antibiotics off the counter. We need to be able to prescribe some other medication which will work temporarily and harmlessly and thereby help both child and parent. Many doctors, perhaps in desperation and sometimes because proper examination of all systems has not been done, prescribe antibiotics. Many mothers drift from doctor to doctor in the first 3 days and are advised changes in antibiotics. This is unacceptable medical practice. Instead of an antibiotic a regular dose of Ibuprofen or mefenamic acid together with intermittent doses of paracetamol will always work for the good of patient, parent and doctor.

Another useful method of management would be to request a WBC/DC and/or urine analysis and culture. A breathing space is also created for parent and doctor, whilst results are awaited.

This point of view is made for the specific purpose of encouraging doctors to examine children painstakingly to detect any obvious bacterial infection as well as to remind the readers of widespread abuse of antibiotics for an acute fever with mild symptoms. Using paracetamol with either ibuprofen or mefenamic acid gives parent and doctor time to accept the eventual diagnosis and improves management of a child with only a high fever, without unnecessary antibiotics.

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