

# the ROUNDUP

## SOLIDS ADVICE

Experts at the American Academy of Pediatrics have adopted a new position on when it's acceptable to introduce potentially allergenic solid foods to children who are at risk for allergies. While no solids should be introduced to babies younger than four to six months, an AAP article published in *Pediatrics* states: "there is no current convincing evidence that delaying their [solids] introduction beyond this period has a significant protective effect on the development of atopic disease .... This includes delaying the introduction of foods that are considered to be highly allergic, such as fish, eggs, and foods containing peanut protein."

(The old advice used to be to hold off feeding tree nuts, peanuts and fish to children with allergies in the family until the age of 3.) The report also finds that breastfeeding for at least four months has a protective effect against allergic diseases. For more on infants, diet and allergy, see *AL's* Winter 2007 issue.

## SEVERE ASTHMA

Severe persistent asthma, which accounts for 5 to 10 per cent of cases, can be difficult to control and treat. Now a study done by the Severe Asthma Research Program (SARP) suggests it may be a separate form of the disease.

The study compared 287 people with severe asthma and 382 with mild or moderate asthma. Those with severe asthma were much more likely to have air trapping – preventing full exhalation – and airway obstruction after treatment. "This tells us that something entirely different is going on in people classified as having severe asthma, either physiologically or in the airways affected," said one of the study's authors.

## B.C. CONFERENCE

Anaphylaxis Canada is holding a one-day conference in Vancouver called



Dr. Peter Vadas: findings called 'breakthrough'.

## BLOOD TEST IS CLOSE FOR ANAPHYLAXIS

by JANET FRENCH

Allergists are hopeful, but cautious, after a new Toronto-led study suggests we may soon have a test to predict who among the allergic is at most risk for a serious reaction, known as anaphylaxis.

Published in the *New England Journal of Medicine* in January, the study showed levels in the blood of a chemical called platelet-activating factor (PAF) along with levels of the enzyme that destroys PAF, have a relationship

with the seriousness of symptoms during a reaction.

The study's lead author, Dr. Peter Vadas, director of allergy and clinical immunology at St. Michael's Hospital, explains that anaphylaxis is a "cast of many characters." There are at least two lead actors: PAF is a "bad guy," who brings on life-threatening symptoms like dropping blood pressure and a swelling airway, while PAF acetylhydrolase (PAF-AH) is the "good guy," who stops PAF from setting off mayhem.

See 'Marker', page 54

# 'Marker' for high risk found

from page 52

High levels of PAF had already been found in animals experiencing anaphylaxis, and scientists learned they could bring about symptoms of anaphylactic reaction by giving PAF to healthy animals. As well, drugs to block PAF have prevented allergic reactions in animals. But Vadas's latest study, which was eight years in the making, is the first to demonstrate similar responses in humans. "With confirmation of these results, I think we're going to have a diagnostic test that will help us to stratify the risk of having life-threatening or severe anaphylaxis," he says.

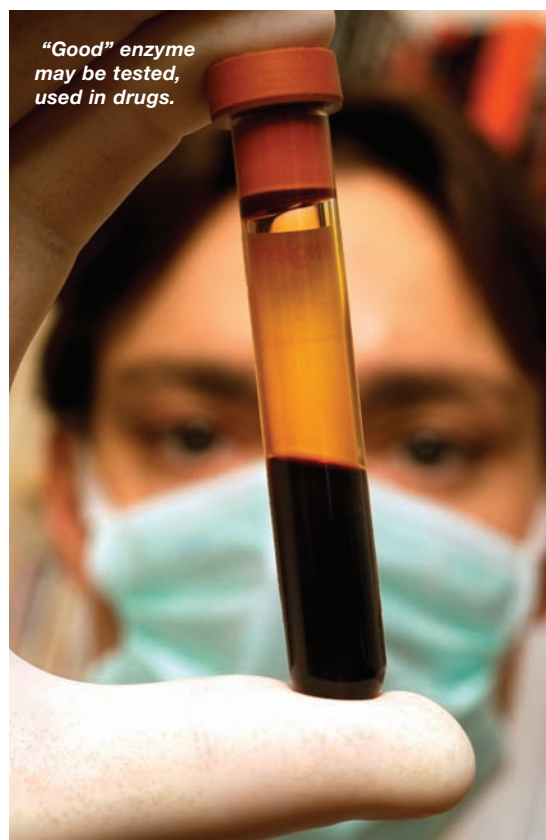
The researchers on his team measured the blood levels of PAF and the good enzyme PAF-AH in 41 patients who had arrived in the emergency room having an anaphylactic reaction and compared them with blood taken from 23 healthy volunteers. They found that PAF levels went up with increasing severity of anaphylaxis, and PAF-AH levels went down with increasing severity of anaphylaxis. Vadas describes it as a "yin yang" relationship.

Researchers also tested blood samples from 215 previous patients, including nine people who died from anaphylaxis after eating peanuts. The nine who died had significantly lower levels of the good enzyme. From a group of 63 children who'd had only mild peanut reactions, PAF-AH levels were found to be almost as high as those in people who had no allergies at all.

Once an independent group of researchers confirms the finding, Vadas says that within a year, allergists should be able to offer a blood test for PAF-AH levels. The results would provide specialists the first ever indicator of whether the person has this specific biochemical marker for the risk of a life-threatening reaction. Vadas compares it to being able to make similar assessments in other medical conditions – for instance testing for cholesterol, a specific marker of

heart disease. Doctors would consider PAF-AH test results in context with other risk factors, such as a history of reactions and asthma, and give allergic patients a better prediction of how likely they are to be in jeopardy when a bee stings or if they accidentally drink milk.

Vadas admits the result could be "devastating" and "frightening" to those whose



"Good" enzyme may be tested, used in drugs.

chemical markers point to potentially deadly reactions. But he adds: "Do they need to know there's that risk? Absolutely."

He is also quick to point out that PAF and the enzyme that stops it are just two components in a soup of ingredients released in the body during an allergic reaction. Nor would a test be foolproof since – just as finding you have normal cholesterol levels does not mean you aren't at risk of heart disease – having normal PAF-AH levels is not the same as saying you have a "mild allergy". You may have other high-risk factors. In fact, the research group has identified another co-factor which, along

with low PAF-AH levels, also predisposes people to life-threatening or fatal anaphylaxis. The details about this new indicator are not yet public, but will be submitted for medical journal publication.

Beyond the blood test, it may also be possible to develop a drug that prevents PAF from setting off anaphylactic reactions. Vadas says such a drug could be used in an emergency to halt anaphylaxis, or as a regular therapy to prevent reactions from becoming life-threatening. "The thing we all fear about anaphylaxis is the potential for it to be fatal," he says. "If there were a drug that prevented it from being a fatal condition, and turned it into a nuisance condition, that would be fantastic." A drug, however, could take years to get approved and to market.

Since news of this study first broke, Dr. David Hummel says patients have been calling to ask about a PAF test. "They want to know, 'can you reassure me, or can you not, about anaphylaxis,'" says the Toronto allergist, who works in private practice and at The Hospital for Sick Children. Hummel tells patients the study results are interesting, but for now, there's still no conclusive test to rule out a life-threatening allergic reaction. He says it is still too early to predict reliably that a person with a low level of PAF or a high level of PAF-AH will not have a severe reaction in future.

Hummel still has questions about PAF, and looks forward to seeing another study with a larger number of patients to confirm the results – and to ascertain the role of other chemical mediators in the development of anaphylaxis. He says that offering the test without patients clearly understanding its limitations might otherwise put some people at risk of unforeseen severe reactions.

Dr. Charles Frankish, president of the Canadian Society of Allergy and Clinical Immunology and an Ottawa allergist, hopes the results will be confirmed. He notes that such a test "certainly would be valuable," as existing blood and skin tests for food, drug and stinging insect allergies give few clues about the way a person will react when exposed. As well, PAF-AH levels would be valuable in diagnosing unusual symptoms that don't clearly point to allergies.

If a PAF-blocking drug could be developed, it would be "a step on the way to a major breakthrough in anaphylaxis," he said.

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