CRP use in risk analysis of coronary artery disease

1.

Can we use C-reactive protein for risk analysis for coronary artery disease?

Question submitted by:
Dr. Lindsay Kennedy
Calgary, Alberta

The 2003 American Heart Association and the Centers for Disease Control and Prevention's scientific statement on clinical assessment of inflammatory markers, including C-reactive protein (CRP),[1] concluded that there was evidence in favor for testing for CRP in certain patients, but that mass population screening was unwarranted.

At present, there is no scientific evidence that CRP measurement used to assess coronary heart disease risk, results in improved patient outcomes.

CRP can be measured in persons at intermediate cardiovascular risk (10% to 20% 10-year risk), with the view that such a measurement may alter patient management.

If CRP measurement is used in the screening and treatment of patients, it should be used in conjunction with an overall assessment of patients' coronary heart disease risk.

CRP can be measured in persons at intermediate cardiovascular risk (10% to 20% 10-year risk), with the view that such a measurement may alter patient management. CRP measurements should be done twice, optimally two weeks apart, with the values averaged.

Patients with high levels (*i.e.*, greater than 10 mg/L) should have the CRP measurement repeated and the patient should be examined for the sources of infection or the sources of inflammation. The 2003 AHA guidelines by Pearson suggests three categories of CRP levels:

1) Low is: < 1 mg/L
2) Average is: 1 mg/L to 3 mg/L
3) High is: > 3 mg/L

There are no specific recommendations regarding patient management based on CRP levels.

Answered by:
Dr. Chi-Ming Chow

Reference
1. Pearson TA, Mensah GA, Alexander RW, et al: Markers of inflammation and cardiovascular disease: Application to clinical and public health practice. A statement for healthcare professionals from the Centers for Disease Control and Prevention and the American Heart Association. Circulation 2003; 107(3):499.

2. Injecting the trochanteric region with cortisone

Are there risks associated with injecting the trochanteric bursa with cortisone? How many times a year can it be done?

Question submitted by:
Dr. B. Toews
Coquitlam, British Columbia

A corticosteroid injection into the trochanteric region is a simple and often successful treatment for bursitis. As there are no important vascular or nerve structures in this area, risks are minimal. Extreme pain may be caused if the injection is erroneously given into the subperiosteal compartment.

Failure to respond may be due to injection into adipose tissue in an obese patient.

The general recommendation is a maximum of three injections per local site, per year. Failure to respond to a corticosteroid injection should suggest some other etiology such as:

- meralgia paraesthetica,
- lumbar 2 or lumbar 3 radiculopathy, or
- hip joint disease.

Answered by:
Dr. Mary-Ann Fitzcharles

3. Treatment of a low ferritin level

Should we treat a low ferritin level even if the hemoglobin is in the normal range?

Question submitted by:
Dr. Maurice Butchey,
London, Ontario

As a rule, treatment of iron deficiency results in the correction of the hematological parameters initially, followed by the biochemical ones. If the patient is on iron replacement for a diagnosed deficiency, therapy should be continued for a total of six months, even after the hemoglobin is corrected. However, care must be taken if the patient is elderly and has not been diagnosed with an iron deficiency anemia in the past.

Occult polycythemia rubra vera in the presence of iron deficiency can present as isolated microcytosis, low ferritin and a normal hemoglobin. Iron replacement in this situation can lead to the unmasking of the underlying polycythemia.

Answered by:
Dr. Kang Howson-Jan
Dr. Kamilia Rizkalla

The use of parenteral iron

4. There is a reluctance to use parenteral iron. What is the incidence of anaphylaxis or other side-effects and please give citations/ references?

Question submitted by:
Dr. T. Fridhandler
Calgary, Alberta

Parenteral iron is usually given intravenously and there are two preparations that are commonly used:

1) iron dextran and
2) iron sucrose.

There are at least two recent publications using the US Food and Drug Administration data.[1] From the latter study,[2] the rates of the various events reported are tabulated as follows (figures represent number of reports per million 100 mg dose equivalents) (Table 1).

Such data can not account for differential use of the formulations in different patient groups and conditions. Overall, the reported incidence of significant adverse events to parenteral iron remains rare.

Answered by:
Dr. Kang Howson-Jan
Dr. Kamilia Rizkalla

References
1. Chertow G, Mason P, Vaage-Nilsen O, et al: On the relative safety of parenteral iron formulations. Nephrol Dial Transplant 2004; 19: 1571-5.
2. Bailie GR, Clark JA, Lane CE, et al: Hypersensitivity reactions and deaths associated with intravenous iron preparations. Nephrol Dial Transplant 2005; 20:1443-9.

Overall, the reported incidence of significant adverse events to parenteral iron remains rare.

Table 1
Incidence of reactions to parenteral iron

Iron Preparation	All events	Fatal events	Anaphylaxis
Iron dextran	29.2	1.4	3.1
Iron sucrose	4.2	0	0.3

New vaccines in Canada

5. When can we use the new diphtheria and tetanus toxoids and pertussis vaccine?

Question submitted by:
Dr. Norman Mah
Georgetown, Ontario

There is now available in Canada a product containing the standard componants of the adult tetanus and diphtheria and tetanus vaccines (d2t5), combined with the so- called acellular pertussis vaccine. Unlike previous pertussis vaccines, this one is suitable for adult use. The purpose is to provide better immunity for adolescents and adults, whose protection from the childhood vaccine may have waned.

The current recommendation is to give one booster dose after the age of seven to those who have had a regular primary series of pertussis vaccinations.

The current recommendation is to give one booster dose after the age of seven to those who have had a regular primary series of pertussis vaccinations.

Groups considered to be at particular risk of contracting the disease, or transmitting the disease to vulnerable populations (such as infants) include:

- those born between 1985 and 1994 who received only the whole cell vaccine,
- parents (or future parents) of young infants,
- all workers in daycares or schools and
- health care workers.

Studies have shown that this vaccine can be given without an increased risk even if a tetanus vaccine has been given within the previous five years.

Answered by:
Dr. Michael Libman

6. A copper taste in the back of the throat

Two patients (21 and 26) recently asked me what could be the cause of the copper taste in the back of their throats?

Question submitted by:
Dr. Andrea Coholic,
Timmins, Ontario

A metallic taste in the mouth is a common symptom and can be due to a variety of causes. Bleeding in the oral cavity can cause this complaint. When blood breaks down, iron is released and causes a metallic taste in the mouth. Bleeding can occur from the gums, the sinuses or the nose. The taste can get especially bad when someone has post nasal drip and the dried blood sticks to the back of his throat. Many oral or intravenous medications can leave a metallic taste in the mouth. These include:

- Thyroid medicine
- Lithium
- Antibiotics (clarithromycin and metronidazole)

Chemotherapy and radiation therapy, can cause a metallic taste in the mouth. The metalic taste has also been associated with:

- Vitamin B12 deficiency
- Zinc deficiency
- Bell's palsy
- Streptococcal throat infection
- Sjogren's disease
- All causes of dry mouth

Another uncommon reason for a metallic taste in the mouth is due to dental fillings. Some believe that it's due to the mercury leakage from dental silver/mercury fillings.

It is always advisable for a patient to check with his physician and/or dentist if he has a copper taste in his mouth.

Answered by:
Dr. Ted Tewfik

7. Treating tinea versicolor

What is the best treatment for tinea versicolor?

Question submitted by:
Dr. Sarah Varner
Toronto, Ontario

The cause of tinea versicolor is a dimorphic yeast (pityrosporum) that seems to proliferate in some skin types and is promoted by unknown factors in skin lipids and sweat.

It can be managed with a variety of anti-yeast agents, both topical (*i.e.,* shampoos, creams, soaps, sprays) and oral agents such as ketoconazole and itraconazole.

Oral agents are the most effective in the treatment of tinea versicolor, but recurrences are very common. Therefore, the most effective treatment is good patient education and instruction in preventing recurrences. The best approach in the long run is a patient-initiated treatment with either of the following:

1) A selenium shampoo (mixed 50/50 with water) overnight, for a few nights, as needed.
2) An anti-yeast soap such as zinc pyrithione.

Answered by:
Dr. Scott Muray

8. The avoidance of certain foods in children

Should any foods be avoided until a certain age in children (e.g., peanuts, strawberries, eggs) and what is the reasoning for this?

Question submitted by:
Dr. Isabelle Johnston
Delta, British Columbia

Professional allergy and pediatric societies in Canada and the US currently recommend that highly allergenic foods, such as peanuts, tree nuts, fish and shellfish be avoided until the age of three in the following groups of children:

- children with a strong family history of atopic diseases (allergic rhinitis, asthma, atopic dermatitis),
- children with atopic diseases themselves and
- children with first-degree relatives who have peanut or tree nut allergies are at higher risk of developing food allergies.

In these high risk children, the highly allergenic foods are best avoided.

There is clinical evidence to suggest that delayed exposure to these foods will defer (but not prevent) the onset of food allergies. As well, older children will be not only better able to communicate symptoms they may experience during an allergic reaction, but may also be physiologically better able to withstand an allergic reaction.

Answered by:
Dr. Peter Vadas

9. Treating eczema

Please comment on the alternating use of pimecrolimus and cortisone cream for eczema?

Question submitted by:
Dr. Larry Bobyn
Kelowna, British Columbia

The calcineurin inhibitors such as tacrolimus and pimecrolimus are valuable additions to our arsenal against eczema. However, topical steroids can be more potent and act a bit faster in acute flares. As well, the calcineurin inhibitors can sting a bit in acute fissuring eczema, so steroids can be used to settle acute flares and then the calcineurin inhibitors can be used to maintain the skin or prevent flares.

This is also a question of economics—calcineurin inhibitors are much more costly than steroids. As a result, we tend to treat widespread eruptions with steroids and introduce the calcineurin inhibitors once the eruption is contained to smaller areas. We also tend to use the calcineurin inhibitors preferentially for areas at risk for steroid side-effects (*i.e.,* face and groin).

Dermatologists look upon these new agents as exciting complements to our standard treatments for eczema—including steroids and moisturizers.

Answered by:
Dr. Scott Murray

10.

Immunizing children with egg allergies

What are the pros and cons of immunizing children with egg allergies for the flu?

Question submitted by:
Dr. Gillett
Thunder Bay, Ontario

Egg allergy is one of the most common childhood food allergies. Manifestations can range from mild itching, or hives, to life-threatening and even fatal anaphylaxis. Children may be allergic to the heat-labile proteins in egg that are destroyed by thorough cooking; or, they may be allergic to heat-stable proteins in egg and react even to cooked or baked egg-protein containing foods.

Some viral vaccines are cultured in hen's eggs and the final vaccine product may be contaminated with egg protein to a greater or lesser extent. There have been numerous studies examining the safety of viral vaccines in egg-allergic children and adults.

The measles, mumps, rubella (MMR) vaccines can be safely administered even in children with a history of severe egg allergy. As with any vaccine, the child should be observed in the office for at least 30 minutes following immunization.

On the other hand, the influenza vaccine and the yellow fever vaccine have sufficiently high levels of egg protein and do pose a risk to egg-allergic individuals. These latter two vaccines should not be administered to egg-allergic individuals.

When in doubt, refer the child to an allergist for appropriate skin testing to the vaccine in question.

Answered by:
Dr. Peter Vadas

Some viral vaccines are cultured in hen's eggs and the final vaccine product may be contaminated with egg protein to a greater or lesser extent.

11. Inoculating children with the flu shot

Should all children under school age receive a flu shot or is it only for those at high risk (i.e., in daycare)?

Question submitted by:
Dr. Lynn Murphy
Moncton, NewBrunswick

Although controversial, many physicians and health authorities recommend influenza immunization for all children six months of age and older. The recent Center for Disease Control recommendations (July 2005) have identified children aged six months to 23 months as a target group for immunization.

Answered by:
Dr. Michael Rieder

12. Is brain worm harmful to people?

Does brain worm in moose pose a threat to people who eat it?

Question submitted by:
Dr. JC Maytham
Kingsville, Ontario

Brain worm (Parelaphostrongylus) is a major pathogen of moose and other cervids and causes neurologic damage. The normal host is the white-tailed deer, which does not become sick. In these deer, the worm lays eggs which become larvae in the central nervous system. The larvae migrate through blood vessels to the lungs and are then swallowed and passed in the feces. They are taken up by certain land-based slugs and snails where the larvae develop further and are able to infect cervids who swallow these snails, thus completing the cycle. There are no reported human cases from eating either infected cervids or snails. Nevertheless, I would suggest both of these be properly cooked before consuming them.

Answered by:
Dr. Michael Libman

13. The use of the RDW value

Of what use is the red blood cell distribution width value in a complete blood count?

Question submitted by:
Dr. FS Demarco
Windsor, Ontario

The red blood cell distribution width (RDW) is an index of the distribution of red blood volumes, provided by the automated counters. It is a mathematical representation of anisocytosis (variation in red blood cell size).

An increase in the RDW suggests the presence of a mixed population of cells. Double populations, whether microcytic cells mixed with normal cells or macrocytic cells mixed with normal cells, will increase the RDW. For example, RDW will increase if there is increased number of reticulocytes (with high mean cell volume) in cases of anemia. Anemias caused by deficiencies (such as iron, folate, or B12) tend to have a greater degree of anisocytosis (with wider RDW) than anemias caused by primary bone marrow disorder or anemia of chronic disease.

Answered by:
Dr. Kang Howson-Jan
Dr. Kamilia Rizkalla

14. What is the treatment for thalassemia?

What treatment and/ or guidance should be offered to patients with thalassemia or thal trait (*i.e.,* microcytic anemia but stable)?

Question submitted by:
Dr. KA Robinson,
Halifax Nova Scotia

Patients with thalassemia minor or thal trait, do not require any treatment. The anemia, if present at all, can be mild. The patients need to be informed of the diagnosis to save them and their family from repeated investigations for anemia and iron deficiency.

If the patient is of child-bearing age, then counselling can be offered to those who have a partner from a similar ethnic background, since the possibility of a homozygous offspring with thalassemia major, will have to be considered.

Answered by:
Dr. Kang Howson-Jan
Dr. Kamilia Rizkalla