Answers to your questions from our medical experts

1. Cancer of the Tongue and HPV

Is the incidence of cancer of the tongue increasing due to the prevalence of HPV?

Submitted by: Yvonne Nault, MD, St. Peter's, Nova Scotia

The majority of oral cancers remain linked to smoking and alcohol. While epidemiologic data does suggest a link between HPV and oral squamous cell cancers (including lip, tongue, oropharynx, tonsils), the link is not as well established as that observed with other HPV-implicated cancers including cervical and anal squamous cell cancers. There has not been an attributable measurable increase in the incidence of cancer of the tongue due to HPV.

Answered by: Dr. Sharlene Gill

2. Elevated Glomerular Filtration Rate in an Elderly Patient

Does a GFR of 32 warrant additional work-up in a 94-year-old woman?

Submitted by: E. J. Franczak, MD, Scarborough, Ontario

As a general rule, an estimated glomerular filtration rate (eGFR) out of keeping with a person's age should be investigated. Although variable, the GFR has been shown to decrease on average by 7 ml/min to 10 ml/min per decade after the age of 30.[1] It should not be assumed that a low GFR is a normal and/or expected finding in an elderly patient. In the case of our 94-year-old woman, if she is otherwise healthy, an age appropriate GFR may be considered to be between 50 ml/min and 60 ml/min. If repeat studies verify this inappropriately low level of renal function, additional work-up is warranted to determine the cause of her renal decline.

Reference
1. Coresh J, Astor BC, Green T, et al: Prevalence of Chronic Kidney Disease and Decreased Kidney Function in the Adult US Population: Third National Health and Nutrition Examination Survey. Am J Kidney Disease 2003; 41(1):1-12.

Answered by: Dr. Manish M. Sood; and Dr. Chris Sathianathan

3. Management of Lichen Planus

What is the modern management of lichen planus?

Submitted by: Frank Ahman, MD, Abbotsford, British Columbia

Lichen planus is a common idiopathic inflammatory disorder that is most likely immune-mediated and affects the skin, mucous membranes, nails and hair. An identical picture can be seen that is drug-induced (lichenoid drug eruption) and this should always be considered in cases of lichen planus, as the treatment in this case is stopping the suspected drug and gradual resolution usually occurs over several months.

It is important to remember that most cases of lichen planus are self-limited and clear in 12 to 18 months even without treatment. However, cases can be chronic and last for years. Unfortunately, there are few evidence-based studies on treatment of lichen planus and these are based on small numbers of patients.

For cutaneous lichen planus, the only drug proven to be effective in a double-blind placebo controlled trial is acitretin, an oral vitamin A derivative. This drug has many potential side-effects and is contraindicated in premenopausal women of childbearing potential. Its use should be restricted to dermatologists after more conservative measures have failed.

Although not evidenced-based, the usual treatment for cutaneous lichen planus is topical glucocorticosteroids, often Class I or II, as well as sedating antihistamines for symptomatic relief of pruritus. Oral glucocorticosteroids are reserved for more widespread or refractory cases. Other options in more severe cases include oral cyclosporin, psoralens plus UVA (PUVA) therapy or narrowband UVB.

For oral lichen planus, a Cochrane review from 1999 found weak evidence for effectiveness of therapies used in nine small randomized controlled trials. The treatments reviewed included:

- topical cyclosporin,
- retinoids,
- steroids and
- phototherapy.

Practically, the usual first treatment for oral lichen planus is topical corticosteroids. I use betamethasone-17 valerate 0.1% ointment or fluocinolone acetonide 0.05% ointment applied on gauze squares and held against the affected mucosal areas for 15 minutes t.i.d.

Other topical options are topical tacrolimus 0.1% ointment, topical retinoic acid gel and topical cyclosporin. For more severe cases, oral steroids and oral acitretin may be effective.

Treatment of lichen planus of the hair and nails is more urgent as permanent scarring can occur and in this situation, referral to a dermatologist is appropriate.

Answered by: Dr. Richard Haber

4. Intolerance to Statins

I have two gentlemen who have high cholesterol levels (> 8 mmol/L) and cannot tolerate any statin. What now?

Submitted by: Dennis Glubish, MD, St. Albert, Alberta

Cholesterol levels of this degree are usually secondary to familial hypercholesterolemia (lack of LDL-C receptors on liver cells). It is very important to decrease LDL-C levels with a combination of diet, exercise and medications if the patient has known coronary artery disease (CAD).

If the patient is intolerant of statins, other lipid lowering therapies including colestipol (bile acid resin), ezetemibe (prevents intestinal absorption of cholesterol) and niacin are indicated. These therapies are less effective than statins and generally decrease LDL-C levels by about 10% to 25% which will not be sufficient for secondary prevention in a patient with CAD. There are also significant side-effects with bile acid resins (abdominal bloating and cramps, difficulty timing other medications to allow absorption) and niacin (flushing, hyperglycemia, pruritus). I would recommend that you refer such a patient to a specialized lipid clinic so that they can be assessed for LDL-C apheresis (plasma exchange done weekly or every two weeks). This treatment can reduce LDL-C by 50% to 75%. Small studies have shown regression of atherosclerosis.

Infusion of apolipoprotein A-I, the major protein component of HDL-C, which transfers cholesterol from peripheral tissues to the liver was recently shown to improve LDL-C in a small case series. This therapy is investigational.

Answered by: Dr. Bibiana Cujec

5. Recommendations Post Prostate Biopsy

What are specific recommendations post prostate biopsy regarding sexual intercourse?

Submitted by: John M. Dawson, MD, Richmond Hill, Ontario

Any strenuous activity should be discontinued for a least three-to-four days to avoid aggravating potential complications of prostate biopsies, such as:

- hematuria,
- hemospermia and
- rectal bleeding.

Answered by: Dr. Hugues Widmer

6. The Value in a Random Serum Cortisol

When ordering a serum cortisol, is there any value in a random serum cortisol or should we order a 8 a.m. serum cortisol in the diagnosis of Addison's disease or adrenal disease?

Submitted by: Roshan Dheda, MD, Bradford, Ontario

Cortisol is secreted episodically with more pulses in the morning. Therefore, a high cortisol value at 8 a.m. in the morning would rule out full-blown Addison's disease. However, a random low cortisol should not be used to make the diagnosis of Addison's disease. To diagnose Addison's disease requires the presence of both the clinical and chemical abnormalities associated with primary adrenal insufficiency.

The cosyntropin (synthetic adrenocorticotropic hormone) test is the diagnostic test of choice for adrenal insufficiency. The cortisol response to this test is the most reliable means of making the diagnosis of Addison's disease.

Answered by: Dr. Vincent Woo

7. Heart Attacks in the Car

A recent circular on the internet claimed that if you have a heart attack in the car on the way from work you can gain precious time by a combination of coughing and deep breathing. The deep breathing helps to keep the oxygen going to the brain and the coughing squeezes the heart similar to CPR. This could be helpful if the heart becomes irregular and enables one to reach the nearest hospital. Do you agree and is this something that I can recommend to my patients?

Submitted by: Ian Simons, MD, Killarney, Manitoba

Cough increases intrathoracic pressure because of forceful exhalation. This augments pressure in the thoracic aorta and improves coronary perfusion pressure. A positive intrathoracic pressure also decreases ventricular transmural pressure (making it easier for the heart to empty) and improves ventricular stroke volume. Patients who develop hemodynamically unstable ventricular tachycardia or asystole may remain conscious for several minutes if they immediately start coughing.

However, I would not recommend coughing to patients who are upright and driving. Coughing will decrease venous return to the heart and the cardiac output will fall after a few cardiac cycles. Cough–related syncope is well described. It would be best for the patient who develops chest discomfort or lightheadedness while driving to immediately pull over to the side of the road, put on their emergency lights and call 911.

Answered by: Dr. Bibiana Cujec

8. Contracting Tularemia from Skunk Feces Dust

Can tularemia be contracted from inhaled skunk feces dust?

Submitted by: Bruno Fafard, MD, Bedford, Quebec

Francisella tularensis is one of the most infectious and virulent microorganisms which man may encounter. The infectious dose is 10 to 50 microorganisms when injected intradermally or when inhaled and 108 organisms when ingested. A multitude of different vertebrates and invertebrates may be infected by *F. tularensis*. Although the characteristic story for infection is that of a hunter skinning a rabbit inhaling the aerosols, there are numerous reports of infection being acquired from skinning, dressing and eating infected animals which include rabbits, muskrats, beavers, squirrels and birds. A recent report has demonstrated that raccoons and skunks in Martha's Vineyard in Massachusettes may serve as sentinels for enzootic tularemia.[1] While specific reports of the inhalation of skunk feces are not available, there have been reports of tularemia being spread through the inhalation of aerosolized rabbit feces.[2] It is therefore, by inference, that one would presume that tularemia could be acquired by inhalation of the feces of an infected skunk.

Reference:
1. Berrada ZL, Goethert HK, Telford SR: Raccoons and Skunks as Sentinels for Enzootic Tularemia. Emerg Infect Dis 2006; 12(6):1019-21.
2. Feldman KA, Enscore RF, Lathorp SL, et al: An Outbreak of Primary Pneumonic Tularemia on Martha's Vineyard. N Engl J Med 2001; 345(22):1601-6.

Answered by: Dr. John M. Embil

9. Soy Products and Breast Cancer

Are soy products not advisable for patients with a history of breast cancer?

Submitted by: Kalyani Srinivasan, MD, Fredricton, New Brunswick

The effects of soy are due to isoflavones, also sometimes known as plant estrogens or phytoestrogens. While soybean products have been promoted for their potential protective effects, there have also been concerns about the weak estrogenic effect of soy that has provided the basis for concern about soy consumption and breast cancer. Some animal studies have indicated that isoflavones may enhance tumour growth in those animals with a hormone-dependent cancer. However, there is no human data available to indicate that isoflavones impact outcomes or survival in women with a history of breast cancer. While there is no human data available to indicate that isoflavones impact outcomes or survival in women with a history of breast cancer, it remains reasonable to recommend that post-menopausal women who are taking tamoxifen or aromatase inhibitors, or women with estrogen-sensitive breast cancers should avoid adding large amounts of soy to their diets.

Answered by: Dr. Sharlene Gill

10. Psoriatic vs. Rheumatoid Arthritis

How can I differentiate psoriatic arthritis from rheumatoid arthritis in patients with psoriasis?

Submitted by: Daryl Brain, MD, Timmins, Ontario

Distinguishing psoriatic arthritis (PsA) from rheumatoid arthritis (RA) can be challenging; psoriasis may not appear until years after the development of arthritis. Fortunately, making the distinction is not critical and is primarily academic, as these forms of inflammatory arthritis are treated similarly.

The pattern of the arthritis can be helpful to differentiate the two. RA is classically a symmetric polyarthritis, chiefly involving the hands (metacarpophalangea and proximal interphalangea joints). There are five main patterns of PsA. One of these is a polyarthritis that resembles RA. Other patterns of PsA include:

- oligoarthritis,
- axial (sacroiliac joints, spine) arthritis,
- arthritis of the distal interphalangeal joints of the hands and
- arthritis mutilans.

Although there are findings on bloodwork that present more often in patients with RA and PsA, neither is diagnostic. RA is considered a seropositive inflammatory arthritis, with a positive rheumatoid factor in roughly 70% of patients, whereas PsA is considered seronegative. Human leukocyte antigen B27 (HLA-B27) tends to be positive in patients with seronegative arthropathies. However, HLA-B27 should not be ordered as a routine screening investigation, unless inflammatory back pain is present. Its presence alone does not differentiate RA from PsA.

X-ray imaging of affected joints offers clues that may help distinguish RA from PsA. In RA, there is diffuse periarticular osteopenia and erosions. In PsA, local periarticular sclerosis can be a more prominent feature.

Either way, patients with findings suggestive of an inflammatory arthritis, be it RA or PsA, should be sent to a rheumatologist for consideration of starting a disease-modifying anti-rheumatic drug.

Answered by: Dr. John Kraft; and Dr. Charles Lynde

11. Furrowed Tongue

Can a furrowed, cracked tongue be part of a disease process?

Submitted by: Andrew Kujavsky, MD, Nepean, Ontario

A furrowed tongue is usually a benign condition, characterized by shallow grooves or fissures on the surface of the tongue. It has also been referred to as scrotal tongue because of its wrinkled appearance. It is often asymptomatic, but can lead to sensitivity in some foods that are spicy or acidic.

It is usually benign with no associated pathology, but can rarely be associated with Down syndrome, Vitamin B1 deficiency or rare genetic disorders like Melkerson-Rosenthal syndrome (a neurological disorder characterized by facial swelling, especially of the lips, nerve palsy and furrowed tongue).

Answered by: Dr. Richmond Sy

12. Dangers of Ear Candling

What dangers are there, if any, to "ear candling?"

Submitted by: Daniel Berendt, MD, Edmonton, Alberta

Ear candling, also known as ear coning or thermal-auricular therapy, is an "alternative therapy" whose advocates believe can cure a multitude of medical problems, including vertigo, sinus pain and ear wax. Although some manufacturers refer to ear candles as "Hopi ear candles," the Hopi Tribe Council strongly deny that this practice has ever been conducted in the Hopi tribe. The "candles" are hollow cones that are covered in beeswax or paraffin. The candle is placed in the patient's ear and set alight and left to burn for a few minutes. It is claimed that the flame creates both warmth and suction, drawing ear wax out of the ear canal. However, there is no evidence in support of this; in fact, Health Canada performed experiments that showed no significant heating or suction within the ear canal. The obvious dangers of burns from hot wax and fire do not seem to deter its followers. Deleterious effects reported include perforated eardrums, burns, fire and candle wax dripping into the ear canal, solidifying and blocking the canal. There is no evidence in the literature in support of ear candling. Interestingly, it is illegal to sell ear candles in both Canada and the US. Guidelines from Health Canada strongly discourage their use. The FDA issued an alert in 2007 stating that they were a danger to health. Safe, efficacious methods of removing earwax include topical application of cerumenolytics (earwax solvents), such as olive oil or sodium bicarbonate drops and occasionally some patients may require syringing or suction evacuation under the microscope.

Answered by: Dr. Emma Barker; and Dr. Jonathan Irish

13. New Neuroleptics for Psychoses

Are there new neuroleptics (to treat psychotic disorders) that do not have metabolic side-effects, nor the life-threatening risks of clozapine?

Submitted by: Pamela McDermott, MD, Huntsville, Ontario

The atypical antipsychotics available in Canada are clozapine, risperidone, olanzapine and quetiapine. Clozapine has the advantage of being effective in patients with schizophrenia resistant to other medications. However, patients on clozapine run an approximately 1% risk of agranulocytosis, which requires regular mandatory blood monitoring. Also, in 2002, Health Canada reported that the use of clozapine may be associated with myocarditis especially in the first month of treatment. This explains its use being limitied to patients with schizophrenia resistant to other antipsychotic medications.

Risperidone, olanzapine and quetiapine have become first-line choices for acute and maintenance treatment of schizophrenia. This is due to fewer extrapyramidal side-effects (EPS), possible greater decreases in negative symptoms and less adverse impact on cognitive functioning, compared to the typical antipsychotics. They are also used in bipolar disorders and in psychoses in older adults. Olanzapine causes significant weight gain and has been linked to diabetes mellitus and hypertriglyceridemia. It may also cause dosage-related EPS. Quetiapine also causes weight gain, but less than olanzapine. Resperidone causes the least weight gain, but tends to cause EPS at a higher dose. It also causes hyperprolactinemia which can be unacceptable for certain patients.

In conclusion, risperidone would cause the least metabolic side-effects, an important consideration for patients with an overweight problem and/or a predisposition to diabetes.

Resource
1. Tschoner A, Engl J, Laimer M, et al: Metabolic Side Effects of Antipsychotic Medication. Int J Clin Pract 2007; 61(8):1356-70.

Answered by: Dr. Hany Bissada

Risperidone, olanzapine and quetiapine have become first-line choices for acute and maintenance treatment of schizophrenia.

14. HPV and Squamous Cell Carcinoma

Can HPV cause squamous cell carcinoma of the cervix and should we do Pap smears to pick up the pre-cancerous lesions and treat them? How do we pick up cervical (early) adenocarcinoma in women who have never had intercourse, since we are not supposed to do Pap smears in them?

Submitted by: Christopher Kwiatkowski, MD, Huntsville, Ontario

Virtually all squamous cell carcinoma (SCC) and the overwhelming majority of adenocarcinomas of the cervix are caused by HPV infection. Specific types of HPV infections are found in almost all pre-invasive lesions and invasive cervical cancers and the relationship is considered to meet all of the requirements to consider it causal. The transmission of HPV is by sexual contact so Pap smears would be indicated on these grounds. The likelihood of adenocarcinoma occurring in virginal women is close to, if not actually, zero. Some would recommend that virginal women should have routine pelvic examinations including a Pap smear beginning at an age between 20 and 25. The need for this cannot be justified from the literature.

Resources
1. Tjalma WA TR, Van Waes TR, Van den Eeden LE, et al: Role of HPV in the Carcinogenesis of Squamous Cell Carcinoma and Adenocarcinoma of the Cervix. Best Pract Res Clin Obstet Gynaecol 2005;19(4):469-83.
2. Castellsagué X, Díaz M, de Sanjosé S, et al: Worldwide HPV Etiology of Cervical Adenocarcinoma and Its Cofactors: Implications for Screening and Prevention. J Natl Cancer Inst 2006; 98(5):303-15.
3. Shimada T, Miyashita M, Miura S, et al: Genital HPV Infection in Mentally-Institutionalized Virgins. Gynecol Oncol 2007; 106(3):488-9.

Answered by: Dr. David Cumming

15. Outgrowing Asthma

At what age do you consider that a child has outgrown asthma? Is there a risk for recurrence once this happens?

Submitted by: Rita Farah, MD, Saint Laurent, Quebec

Asthma is a common, chronic respiratory condition that usually has an onset in childhood. In a number of longitudinal cohort studies, different patterns have been described in the natural history of asthma, including persistent disease, complete remission ("outgrowing asthma") and relapsing asthma (either intermittently or persistently after a prolonged period of remission).[1] There is no age at which it is safe to state that a child has "outgrown" asthma. A number of risk factors have been reported for persistent or relapsing asthma, including early age of onset of asthma or wheezing, sensitization to house dust mites, presence of airway hyperresponsiveness and abnormal pulmonary function test results as a child, female sex and smoking as a child or young adult.

Reference
1. Sears MR, Greene JM, Willan AR,, et al: A Longitudinal, Population-Based, Cohort of Childhood Asthma Followed to Adulthood. NEJM 2003; 349(15):1414-22.

Answered by: Dr. Paul Hernandez

16. OC Use During Lactation

What is the best advice for use of OC during lactation?

Submitted by: Brian Poelzer, MD,
Kamloops, British Columbia

In lactating women, combined hormonal contraceptives (CHCs) containing estrogen and progestin are usually initiated around six weeks postpartum to avoid the increased risk of thrombosis during the puerperium. CHCs may decrease the volume of breast milk temporarily, requiring diligence to frequent feeds and adequate fluid intake.

If breastfeeding is not well established, then the progesterone only pill (POP) may be a better alternative as it is not associated with this problem. The POP can be initiated in the immediate postpartum period as it is not linked with increased thrombosis. The POP has reduced contraceptive efficacy compared to CHCs, though this may not be a major concern in an exclusively breastfeeding woman as this affords a certain amount of decreased fertility. A discussion should include all methods of contraception for full informed patient choice.

Resource

1. Kennedy KI, Trussell J: Postpartum Contraception and Lactation. In: Hatcher RA, Trussell J, et al, (ed): *Contraceptive Technology.* 19th Ed. Ardent Media, New York, 2007 pp. 575-92.

Answered by: Dr. Victoria Davis

17. False-Positive Mono Tests

How long will mononucleosis antibodies remain in a patient's system yielding positive mono tests?

Submitted by: Basil Blanchard, MD, Rogersville, New Brunswick

The Epstein-Barr Virus (EBV) is a ubiquitous human herpesvirus. The Monospot is a laboratory test which detects heterophile antibodies, which will agglutinate sheep erythrocytes and are present in approximately 90% of cases at some time during the illness. It is important to note that the Monospot may occasionally lead to false-positive responses in patients with lymphoma or hepatitis. There is significant variability when the Monospot becomes non-reactive. It has been noted that in 30% to 40% of persons who have had acute mononucleosis will have a persistently reactive Monospot test for > 12 months after the acute illness. It is important to note that the Monospot may become non-reactive, but then, at a later date, become reactive. It is believed that this is due to the lack of sensitivity of the immunological response to unrelated illnesses. A correlation has not been detected between the clinical manifestations of infectious mononucleosis and the persistence of a reactive Monospot test.

Resource

1. Johannsen EC, Schooley RT, Kaye KM: Epstein-Barr Virus (Infectious Mononucleosis). In: Mandell GL, Bennett JE, Dolin R (Eds): *Mandell Douglas and Bennett's Principles and Practice of Infectious Diseases.* 6th Edition. Elsevier, Philadelphia, 2005, pp.1801-20.

Answered by: Dr. John M. Embil

See prescribing summary and study parameters on page 103

18. Melanoma in Sunburnt Skin

We know that intermittent sunburns predispose to later melanoma development, but is the risk restricted only to the previously burned skin, or does the increased risk equally apply to old skin?

Submitted by: Wayne Parsons, MD, Stratford, Ontario

Unfortunately, studies have not been able to show incidences of melanoma in sites of known previous burns. This is muddied as patients may not recall the location of all of their previous sunburns, so this kind of a link is difficult to make with any certainty. We do not know enough about the pathogenesis to say for sure if the melanoma will develop preferentially in previously burned skin. Melanomas tend to occur in patients with fair skin, with intermittent, high-intensity exposure and who are not regularly exposed to the sun.

Superficial spreading melanoma is the most common form, representing 70% of melanomas and tends to occur on the trunk of men and legs of women. Nodular melanomas are the next most common (15% to 30% of melanomas) and are most often found on the trunk, head and neck. Lentigo maligna melanomas (up to 15% of melanomas) tend to occur on chronically sun-damaged skin, especially the face (nose and cheek). Some melanomas seem to occur on non-sun-exposed sites, such as acrolentiginous melanomas (5% to 10% of all melanomas) which are found on the palms, soles and nail apparatus.

Regardless of where patients recall previous burns, regular full skin exams, including sun-exposed and non-sun-exposed sites, remain critical in the early detection of melanoma.

Answered by: Dr. John Kraft; and Dr. Charles Lynde

19. Appropriate Cancer Screening Tests

I notice that my colleagues frequently request CA-125 and CEA screening tests. My understanding is that these tests are not useful for screening, but for monitoring existing ovarian and bowel cancer. Have I got it wrong?

Submitted by: Johan L Van Zyl, MD, Melville, Saskatchewan

No, you have not got it wrong—these are not appropriate cancer screening tests. Serum carbohydrate antigen-125 (CA-125) and carcinoembryonic antigen (CEA) measurements lack the sensitivity for utility in screening for ovarian cancer and colorectal cancer respectively. These tumour marker assays may have prognostic value in diagnostic evaluations. They are primarily used in the monitoring of treatment response and surveillance for relapsed disease.

Answered by: Dr. Sharlene Gill

20. Investigating Angioedema During Pregnancy

What investigations should be done on a patient who presents with angioedema during pregnancy?

Submitted by: C. Lynde, MD, Markham, Ontario

It is important in pregnancy that treatment options consider the potential impact on the developing fetus and the mother, whereas investigations may be carried out in most cases in a similar manner as with non-pregnant individuals. The most common considerations for angioedema are allergic, infectious (acute), or chronic causes such as idiopathic, hereditary, complement disorders, collagen vascular diseases, or malignancy (acquired C1 esterase inhibitor depletion).

The presence or absence of urticaria is also very important, as both inherited and acquired forms of C1 esterase inhibitor deficiency occur without hives. The presence of hives would allow for consideration of various physical urticarias (cold, exercise, heat) or vasculitis causes (serum sickness, hypersensitivity vasculitides).

As in all cases, a detailed history and physical exam is essential, with the goals of categorizing angioedema and/or hives as acute or chronic (longer than six weeks) and vasculitic (lesion bruises are painful and last > 24 hours).

Considerations for investigations include:

- white blood cell count and differential,
- erythrocyte sedimentation rate,
- antinuclear antibody,
- stool for ova and parasites, or
- a skin biopsy if a vasculitis is likely.

Complement studies and thyroid antibodies should also be done. Liver function studies and hepatitis serology may also be considered.

Women may commonly complain that urticaria exacerbates during menses and although immunologic reactions to endogenous hormones have been proposed, there is little evidence to support such a mechanism. However, hormones may certainly have a role in modulating the severity of symptoms. Specifically, pregnancy and OC use have been associated with exacerbations of hereditary angioedema, so the C1 inhibitor level and functional assay would be important to assess in a pregnant woman with angioedema without hives.

Answered by: Dr. Tom Gerstner

21. Irritable Bowel Syndrome and Crohn's Disease

Can IBS coexist with Crohn's disease/ulcerative colitis?

Submitted by: Francis Kwan, MD, Whitby, Ontario

It is known that irritable bowel syndrome (IBS) can coexist with inflammatory bowel disease (IBD). Functional symptoms most likely occur in 10% to 20% of the population. It is not known if the incidence of IBS is greater in the population with IBD or is the same as that of the general population. The proposed hypothesis is that with the chronic inflammation of IBD, hypersensitivity of the GI tract can occur leading to IBS symptoms. Other possible pathophysiologic mechanisms include altered mucosal permeability, altered gut motility, disturbance in gut flora and sustained life stressors leading to symptom modulation.

It is often difficult and challenging for the caring physician to recognize the difference between the two when the patient who has known IBD is complaining of abdominal pain, bloating and altered bowel habits, as these traits are common to both entities. Care must be given not to escalate the therapy for IBD in the presence of IBS, as they have no effect on functional symptoms and may reinforce their presence. A thorough history, physical exam and appropriate investigations (bloodwork, x-rays and endoscopic examination) can help differentiate between the two.

Treatment of IBS in patients with IBD is similar to that of the general IBS population. This includes establishing a good patient-physician relationship, a conservative approach of patient education, diet and lifestyle modifications and individual pharmacologic treatment (*e.g.*, antispasmodics, antidiarrheals and antidepressants).

Answered by: Dr. Richmond Sy

22. Omega-3 Supplements for Pregnancy and Breastfeeding

Should omega-3 supplements be encouraged for pregnant/breastfeeding women?

Submitted by: A. Good, MD, Toronto, Ontario

North American diets tend to be low in essential omega-3 fats; therefore, supplementation or increasing dietary intake would be reasonable. According to seven international organizations, pregnant and lactating women should take 200 mg of the omega-3 fatty docosahexaenoic acid (DHA) which can be found in fatty fish, such as salmon and mackerel.

Omega-3 supplementation is associated with healthy birth weights and a decreased risk of premature birth. In addition, DHA intake has been linked to brain and eye development. Many mental disorders, including attention deficit hyperactivity disorder, may be associated with deficiencies in omega-3 and omega-6 essential fatty acids. Based on this information, many breastfeeding supplements (formulas) have increased the content of DHA and other essential fatty acids.

Answered by: Dr. Victoria Davis

23. Assessing Changes in Bone Density

If an osteodensitometry reveals that bone density has fallen, even if the medication (*e.g.*, alendronate sodium) is taken well after one year of treatment, is it alright to change medication (*e.g.*, to risedronate sodium)?

Submitted by: Genevieve Lampron, MD, Longueuil, Quebec

The difficulty with assessing changes in BMD is related to the interobserver variability and variations from one densitometer to another. Thus, it is important that patients try to repeat BMD as much as possible in the same place and with the same machine. In order for a change in bone mineral density to be considered significant, it should be greater than the "least significant change" for the densitometer in question.

BMD that is stable or improving is evidence for a treatment response. The finding of a clinically-significant BMD decrease in a treated patient should trigger additional evaluation for contributing factors, which may include poor adherence to therapy, inadequate GI absorption, inadequate intake of calcium and vitamin D, or the development of a disease or disorder with adverse skeletal effects.

If the patient is otherwise well and compliant with therapy, management is controversial. Some evidence supports the belief that the decrease in BMD truly reflects a treatment failure, whereas other evidence shows that the decline in BMD could be ascribed to measurement error and suggests that repeating the BMD one year later and taking action only if the decline is reaffirmed is appropriate.

If the change in BMD is small (< 5%) and the patient is taking the drug correctly and has a negative evaluation for contributing factors, continuing the same therapy and repeating the BMD two years later would be reasonable. If there was a need to change therapy, then the use of a more potent bisphosphonate (pamidronate or zoledronic acid) or a parathyroid hormone analogue (teriparatide) would be more advisable than using another oral bisphosphonate.

Resource

1. Lwiecki EM: Nonresponders to Osteoporosis Therapy. J Clin Densitom 2003; 6(4):307-14.

Answered by: Dr. Sabrina Fallavollita; and Dr. Michael Starr

The difficulty with assessing changes in bone mineral density (BMD) is related to the interobserver variability and variations from one densitometer to another.

24. Managing Acutely Increasing Creatinine

What are some ways to manage a patient with many comorbidities who develops with an acutely increasing creatinine?

Submitted by: Patrick Sullivan, MD, Sussex, New Brunswick

Acute dialysis is often suggested to be the first step in the management of acute increases in creatinine or acute renal failure, but this can often be avoided with careful management of the comorbidities accompanying renal dysfunction.

A step-by-step approach can be summarised as follows:

- STEP 1: determine urgency of acute renal failure and initiate emergency management as necessary. This includes treatment of life-threatening hyperkalemia (*i.e.*, potassium > 6.0 mEq/L or EKG changes consistent with hyperkalemia) and volume overload/pulmonary edema
- STEP 2: achieve euvolemia. If a patient is volume depleted, administer IV fluid resuscitation to treat a pre-renal cause of acute renal failure
- STEP 3: achieve urine output. Foley insertion can be followed by diuretic administration and an abdominal ultrasound should be ordered
- STEP 4: search for reversible causes. Discontinue ACE inhibitors or ARBs; historically look for contrast, aminoglycoside antibiotic or NSAID use
- STEP 5: renally adjust medication dosages. Antibiotics, allopurinol and oral hypoglycemics often require dosage adjustments while metformin should be held due to risk of lactic acidosis
- STEP 6: initiate a renal diet. A low potassium, low sodium, low phosphate diet should be initiated with a fluid restriction of < 1 L q.d.
- STEP 7: achieve fluid balance. If the oliguria develops, IV fluid should be limited to maintainence requirements plus the amount of urine output
- STEP 8: monitor carefully. Repeat electrolytes and creatinine frequently and continually assess volume status for signs of fluid overload
- STEP 9: avoid further insults. Hypotension, IV contrast, aminoglycosides and NSAIDs should be avoided as they worsen the renal injury
- STEP 10: indications for dialysis. Hyperkalemia refractory to medical treatment, severe acidosis refractory to medical treatment, uremic pericarditis or encephalopathy, overdose and volume overload refractory to medical treatment should prompt rapid consideration for acute dialysis

These management steps should be done in conjunction with consultation by a Nephrologist or Internal Medicine specialist.

Answered by: Dr. Manish M. Sood

25. Common Causes of Loss of Smell

What are some common causes of loss of smell?

Submitted by: Mark Poulin, MD, Montreal, Quebec

Loss of smell (anosmia) results from an interruption in the olfactory (smell) pathway. We will first review this pathway and then discuss the various pathologies that can result in its disruption.

Odours (low molecular weight organic compounds) are inhaled into the nasal vestibule. They diffuse up into the roof of the nose to the olfactory receptors, embedded within the mucous membrane in the roof of the nasal cavity. Here, they dissolve in solution and set up a chemical reaction (excitation potential) in the olfactory receptors. Axons from the olfactory receptors enter small nerve bundles (the olfactory, or first cranial nerve), which pass through the perforations in the cribiform plate of the ethmoid bone and subsequently enter the olfactory bulb. The olfactory bulbs lie on the ventral aspect of the frontal lobes. Within the olfactory bulbs, the olfactory nerves synapse on mitral cells whose axons project directly to the olfactory cortex. The olfactory tract connects the olfactory bulb with the cerebral hemispheres. Axons of mitral cells pass directly back to the olfactory cortex on the ipsilateral side.

This olfactory pathway can be disrupted at any point. The odours may not be able to diffuse into the nasal vestibule due to a deviated nasal septum or extensive polyp disease. Within the nose, the particles can be prevented from diffusing to the olfactory receptors by:

- infection,
- inflammation (*e.g.*, smoking, allergic rhinitis, polyps) or
- tumour (benign or malignant).

If the odour reaches the receptor, it may not be excited due to the nerve being damaged as a result of a neurotropic virus. If the receptors can be excited, the signal could be disrupted if the axons were severed, as a result of a cribiform plate fracture. Finally, within the cranium, pressure on the olfactory nerve can prevent signal transmission (*i.e.*, tumour or increased intra-cerebral pressure).

It is possible for a patient to comment on their lack of smell, but they can still appreciate irritating or pungent odours. This is as a result of an alternative neurological pathway, via free nerve endings of the trigeminal nerve.

Answered by: Dr. Emma Barker; and Dr. Jonathan Irish

26. Venous Thromboembolism in Pregnancy

A 35-year-old female patient who is a smoker developed a deep-vein thrombosis and pulmonary embolus while pregnant. She was started on dalteparin sodium and is now on warfarin. What is the usual length of treatment for warfarin and is a lung ventilation-perfusion scan or CT scan the preferred follow-up test?

Submitted by: Eric M. Grief, MD, Thornhill, Ontario

Venous thromboembolic disease in pregnancy is a serious condition associated with significant risk for maternal and fetal morbidity and mortality. The normal changes that occur in pregnancy predispose women to a five-fold increased risk of venous thromboembolism (VTE).[1,2]

There is debate as to the best tests to investigate for VTE in pregnancy. Compression venous ultrasound is considered the best way to diagnose deep venous thrombosis in pregnancy.[1,2] The gold standard test to diagnose pulmonary embolism is CT pulmonary angiography. However, this test is associated with much greater radiation exposure than radionuclide lung scintigraphy. In the setting of a pregnant patient with a normal chest radiograph and no history of prior lung disease a half-dose perfusion lung scan may be preferable as the initial investigation for pulmonary embolism.

Treatment of VTE is challenging in pregnancy and the postpartum period.[1,2] Warfarin can cross the placenta and cause embryopathy and adverse effects in the fetus. Warfarin is safe, however, to use in the postpartum period even during breastfeeding. Heparins are safe to the fetus and can also be used during breastfeeding but can have significant maternal side-effects, including osteoporosis and thrombocytopenia. Low molecular weight heparins (LMWH) are preferred to unfractionated heparin.

There is a paucity of clinical evidence to make recommendations regarding the appropriate dosing regimens in pregnancy and the postpartum period. LMWH are recommended for initial management of VTE in pregnancy. In the absence of other risk factors, anticoagulation with warfarin should be continued in the postpartum period for at least six weeks for a total duration of anticoagulation (during pregnancy and postpartum period combined) of six months. Some experts have suggested that if there are no risk factors for VTE and baseline tests (*i.e.*, compression venous ultrasound and radionuclide lung scintigraphy) have returned to normal, than the total duration of anticoagulation can be reduced to three months (including six weeks postpartum). Dx

References
1. Greer IA: Prevention and Management of Venous Thromboembolism in Pregnancy. Clin Chest Med 2003; 24(1):123-37.
2. Segal JB, Streiff MB, Hofmann LV, et al: Management of Venous Thromboembolism: A Systematic Review for a Practice Guideline. Ann Intern Med 2007; 146(3):211-22.

Answered by: Dr. Paul Hernandez