Consultant's Corner

Practical Answers To Your Everyday Questions

1. Quantity of Fat to be Present on Ultrasound

How much fat needs to be present in the liver for that fat to show up on an abdominal ultrasound?

Question submitted by:
Dr. Eric Grief
Thornhill, Ontario

Nonalcoholic fatty liver disease affects 20% to 30% of the general adult population in Canada. Ultrasound is a very useful, non-invasive means to detect hepatic steatosis. A fatty liver presents with increased echogenicity on ultrasound, so that liver appears brighter. However, ultrasound is unable to determine if fibrosis is present. In order to determine if fibrosis is present, a liver biopsy may be necessary unless the patient has clinical findings in keeping with cirrhosis.

Several studies have assessed the sensitivity and specificity of ultrasound for detecting hepatic steatosis. In these, the sensitivity ranged from 60% to 94% and the specificity from 84% to 95%, respectively. However, as the hepatic fat content decreases to < 20%, ultrasound only has a sensitivity of 55%. If the hepatic fat content is > 30% fatty infiltration, the sensitivity increases to 80%. Ultrasound is a useful technique for detecting hepatic steatosis, but it is unable to provide a precise quantification of hepatic fat content and can be quite subjective.

Answered by:
Dr. Jerry McGrath

2. Implication of Endometrial Cells on Pap Smear

What is the implication of endometrial cells on Pap smear?

Question submitted by:
Dr. Steve Choi
Oakville, Ontario

Benign endometrial cells in a premenopausal woman are considered normal, especially in the first half of the menstrual cycle. In this case, no further follow-up is needed. Benign cells found in the second half of the menstrual cycle are also likely of no significance; however, clinical correlation for risk factors of endometrial disease should be considered. In post-menopausal women, assessment for endometrial disease should be performed and may include a transvaginal ultrasound or endometrial biopsy.

Answered by:
Dr. Kimberly Liu

The New Rotavirus Vaccine

3.

Can you please comment on the new rotavirus vaccine and if we should include it into the immunization schedule?

Question submitted by:
Dr. Kinga T. Koprowicz
Kirkfield, Ontario

The rotavirus vaccines are safe and effective in reducing the risk of rotavirus-induced gastroenteritis, with the caveat being that they should be administered prior to 12-weeks-of-age. The place of these vaccines in the routine immunization schedule is somewhat controversial, as in the developed world they probably will have an insignificant effect on mortality. However, a case can be made that they will reduce morbidity and, for the healthcare system, may afford savings by reducing the number of visits to doctors and EDs as well as reducing hospitalizations. While this needs a careful economic evaluation, a case can be made for including rotavirus immunization in the immunization schedule as part of cost-responsive healthcare policy.

Answered by:

Dr. Michael Rieder

Recommendations for Milia

4.

What is the current treatment recommendations for intradermal papules (milia) near the eyes and eyelids?

Question submitted by:
Dr. Gina Wong
Nepean, Ontario

Milia are common benign, small cysts that appear often in skin that is irritated by skin problems or by over-occlusion with cosmetics. Therefore, the first step in management is an assessment for irritation and dermatologic problems such as eczema, porphyria, or eyelid dermatitis. Some patients have a habit of rubbing the eyes persistently which commonly gives rise to milia. Very commonly the patient needs to use less moisturizer or simplify their cosmetic routine. Milia can be surgically removed by curettage, fine electrocautery or even some resurfacing laser techniques. Peeling can also help with glycolic acid peels, topical retinoids, or benzoyl peroxide.

Answered by:

Dr. Scott Murray

Repeating INR

5.

A patient whose INR is stable, how often do you repeat it?

Question submitted by:
Anonymous

Maintenance doses of warfarin vary significantly from patient to patient, depending upon the patient's nutritional status, genetic makeup and the presence of drug interactions.

Frequent INR determinations (daily to every three days) are required initially to establish that therapeutic anticoagulation levels have been achieved. Once the anticoagulant effect and patient's warfarin dose requirements have been stabilized for at least one to two weeks, the INR can be monitored less frequently, at intervals in the range of every two to four weeks, throughout the course of warfarin therapy. However, the INR should be monitored more frequently to minimize the risk of complications due to poor anticoagulant control if there are factors that may produce an unpredictable response to warfarin (*e.g.*, concomitant drug therapy, other medical conditions, variable intake of vitamin K). The INR should also be monitored more frequently when substitution of one warfarin preparation for another has occurred, in order to screen for differences in drug availability.

Answered by:

Dr. Chi-Ming Chow

Eczema of the Eyelids

6.

What can be used topically for eczema of the eyelids?

Question submitted by:
Dr. Bonnie Bergman
Laval, Quebec

Eczema of the eyelids poses a special condition to consider the side-effects of topical steroids. The atrophy they cause is troublesome on this thin skin. As well, there is a risk of raising ocular pressures, cataracts and keratitis. We have always used the mildest steroids for as little time possible to control symptoms. The introduction of calcineurin inhibitors such as tacrolimus and pimecrolimus have greatly increased the safety margin of topical agents for eyelid eczema—they are the agents of choice for this condition.

Answered by:

Dr. Scott Murray

7. Vitamin D Supplementation for a Menopausal Woman with High Total Calcium

Does a menopausal woman with high ionized and total calcium (investigations all negative) need to be on calcium/vitamin D supplementation for osteoporosis prevention?

Question submitted by:
Dr. Shawn W. Gmora
North York, Ontario

An elevated calcium level is always a sign of pathology. Thus, the statement "investigations all negative" is likely incorrect. I suspect that the parathyroid hormone (PTH) level in this patient was found to be "normal" and thus primary hyperparathyroidism was (erroneously) ruled out. However, even a "normal" PTH level in a hypercalcemic patient is abnormal and indicates primary hyperparathyroidism. If the PTH level is low, entities such as multiple myeloma, malignancy, sarcoidosis, vitamin D toxicity, *etc*., need to be ruled out. Another entity to consider is familial hypocalciuric hypercalcemia. I would recommend having this patient assessed by an endocrinologist. If the patient has primary hyperparathyroidism and mild hypercalcemia, supplementation with low-moderate doses of calcium and vitamin D is recommended, as complete restriction further worsens bone disease. Furthermore, coexisting vitamin D deficiency will further increase PTH levels and worsen bone disease.

Answered by:

Dr. Hasnain Khandwala

8. Treatment for Perforated Acute Otitis Media

What is the best treatment for perforated acute otitis media (oral antibiotics, drops, or both)?

Question submitted by:
Dr. Nancy Nadeau
Boucherville, Quebec

If the perforation is recent, the patient will complain of pain associated with ear discharge and diminished hearing. Occasionally, dizziness or vertigo may accompany this condition. In these cases, an oral antibiotic as well as local (topical) drops are prescribed. It may also be advisable to clean the ear (with suction, under microscopy) if the discharge is abundant and lasts more than a few days. The patient should be followed to determine if the perforation closes or persists.

On the other hand, if the patient has an old perforation (chronic) and the infection occurs when water goes in the ear (after swimming or showering), a topical antibiotic may suffice. In this case, an otolaryngologist's opinion is required to determine the necessary course of action.

Answered by:

Dr. Ted Tewfik

Risk of Infection from a Needlestick Injury

9.

Could you comment on the various infection risk of a single needle poke injury for HIV, Hepatitis B and C, human t-cell lymphoma, *etc.*?

Question submitted by:
Dr. Barbara Lansing
Calgary, Alberta

The risk of infection after a needlestick injury from an infected source is obviously difficult to calculate, so the available numbers are relatively crude estimates. Rates are very high for Hepatitis B, with most estimates in the range of 20% to 25%. Of course, the great majority of this risk is eliminated if the exposed person is vaccinated. Giving Hepatitis B immune globulin and vaccine to a non-immune individual within 24 hours of exposure likely provides good protection, but reliable data is lacking. The risk for Hepatitis C is about 2% and there are no recommended post-exposure prophylactic regimens at this time. For HIV, it is about 0.3%. For a blood splash injury involving mouth or eye mucosa, the risk is probably about ≤ 0.1%. The risk with human t-lymphotropic virus 1 or 2 (HTLV 1/2) is not known, but likely similar to HIV. The risk is higher when the needle is hollow bore (vs. solid), used to draw blood (vs. inject), when gloves are not worn, when the injury is deep and when the source has a high viral load. Antiretroviral medication taken soon after exposure (ideally within a few hours) may reduce transmission rates by up to 80%.

Answered by:

Dr. Michael Libman

The Usefulness of Serial Urate Levels

10.

Are serial urate levels useful when treating gout?

Question submitted by:
Dr. Reena Suri
Calgary, Alberta

Not all patients who are diagnosed with gout require uric acid lowering therapy. However, if a patient has more than three attacks per year, has polyarticular attacks, has a serum uric acid of > 600 or has evidence of tophi or erosive disease, then treatment with allopurinol should be considered. The optimal dose of allopurinol is based on the serum uric acid level. The initial dose for someone with normal renal function is 200 mg to 300 mg and should be titrated to a uric acid level of < 360. Occasionally, large doses are needed to obtain an effective treatment dose. Once the optimal dose is obtained, the patient should have their renal function and uric acid assessed intermittently to see if dose adjustments are needed.

Answered by:

Dr. Elizabeth Hazel

Egg Allergy and the Influenza Vaccine

11. If a patient received influenza vaccine in the past, but tests positive for egg yolk allergy, do you still give the vaccine?

Question submitted by:
Dr. Daniel Yim
Toronto, Ontario

Food allergies are seen in 6% to 8% of children and about 1% to 2% of adults, although more recent estimates suggest that the prevalence of food allergies in general is rising in most Western countries. Allergy to egg is common, especially in children. The major egg allergens, ovalbumin and ovomucoid, are found in egg white. Egg yolk contains relatively little allergenic protein.

Some children are allergic only to heat-labile proteins in egg and will react only to raw or partially cooked eggs, but not to foods containing egg protein that is thoroughly cooked or baked. Others are allergic to heat stable proteins and will react to eggs in all foods.

While skin prick testing may demonstrate the presence of egg-specific IgE in a patient, it does not prove that the patient is actually allergic to eggs. Some patients may have positive skin tests and will still tolerate ingestion of egg protein—this is termed asymptomatic hypersensitivity. Either a history highly suggestive of allergic reactions to egg protein or a carefully supervised graded oral challenge to egg will confirm or rule out egg allergy.

If a patient can eat eggs without any problems, they may safely be given the influenza vaccine. However, flu shots should not be given to patients with a true egg allergy.

Answered by:

Dr. Peter Vadas

Giving a Second Dose of the Varicella Vaccine to Children

12. What is this I hear about having to give a second dose of the varicella vaccine to children?

Question submitted by:
Anonymous

You hear correctly. Current policy in the US is to give a second dose of the varicella vaccine in all cases and this is being actively discussed in Canada. Why use a second dose? The goal of US public policy in this case is eradication of varicella and it is clear that having all vaccine recipients receive a second dose is necessary to achieve this goal. As well, there are a certain percentage of non-responders to a single dose strategy and given the dwindling incidence of varicella, with implications for a markedly reduced pool of native immunity, this suggests that vaccine strategy needs to consider that the consequences of vaccine failure might be different than in an era in which wild-type disease was common.

Answered by:

Dr. Michael Rieder

Treating Polycystic Ovary Syndrome

13. What is the best way to treat polycystic ovary syndrome (PCOS) in a woman who does not wish to be on birth control pills?

Question submitted by:
Dr. Dudu Pallie
St. Catharines, Ontario

Patients with PCOS who have chronic anovulation are at risk of dysfunctional uterine bleeding, endometrial hyperplasia and endometrial cancer because of prolonged exposure to unopposed estrogen.

Patients require regular exposure to a progestin for endometrial protection. Women who do not wish to take an OC pill can use a cyclic progestin in order to achieve endometrial protection. In this setting, women can use 10 mg of medroxyprogesterone acetate every one to two months for seven to 10 days. Patients can be counselled to take medroxyprogesterone acetate each month on starting on the same calendar day (*i.e.*, September 1 to 10, October 1 to 10) or can use medroxyprogesterone acetate every 35 days in the absence of a spontaneous menses. Cyclic medroxyprogesterone acetate is not a contraceptive method and women not using another form of contraception can become pregnant if they ovulate spontaneously. On the flip side, it does not induce ovulation and patients seeking pregnancy should seek further assessment and treatment from a gynecologist or fertility expert.

Answered by:

Dr. Kimberly Liu

Myelocytes in a Blood Smear

14. Do the presence of myelocytes in a blood smear of an individual with normal blood counts indicate a cause for concern?

Question submitted by:
Dr. Tim Tatzel
Thorold, Ontario

Under normal conditions, myelocytes are not usually seen in peripheral blood smears. However, they can be seen in benign conditions such as infections and inflammatory diseases. They can also be seen in primary bone marrow diseases such as acute and chronic leukemias, myeloproliferative and myelodysplastic disorders and diseases involving marrow replacement (*e.g.*, primary and secondary myelofibrosis). If history and physical examination and cytological examination of the blood film do not help to clarify the diagnosis further, bone marrow examination should be considered.

Answered by:

Dr. Kamilia Rizkalla and Dr. Kang Howson-Jan

Recommendations for Worsening Chest Pain

15. What do you think about the recommendations to immediately call an ambulance and/or go to the ED if chest pain does not improve or worsens for longer than five minutes after taking a nitro in a semi-rural setting where there is no cardiac catheterization lab available on site at the hospital?

Question submitted by:
Dr. Rejean Lebel
La Sarre, Quebec

Prompt restoration of myocardial blood flow is essential to myocardial salvage and mortality reduction after STEMI. If high-quality percutaneous coronary intervention (PCI) is available, multiple randomized trials have shown enhanced survival compared to thrombolysis with a lower rate of intracranial hemorrhage and recurrent MI. If primary PCI is not available on site, rapid transfer to a PCI center can still produce better outcomes than thrombolysis, as long as the door-to-balloon time, including interhospital transport time, is < 90 minutes. However, this door-to-balloon time is difficult to obtain unless rapid transport protocols and relatively short transport distances are in place. The 2004 American College of Cardiology/American Heart Association (ACC/AHA) and the American College of Chest Physicians (ACCP) guidelines recommend the use of thrombolytic therapy for patients with STEMI who present to a facility in which the relative delay necessary to perform primary PCI (the expected door-to-balloon time minus the expected door-to-needle time) is greater than one hour.

Answered by:

Dr. Chi-Ming Chow

Follow-Up for a Thyroid Patient with Low TSH

16. What is the easiest follow-up for the thyroid patient with low TSH?

Question submitted by:
Dr. Odile Trudel
Laval, Quebec

In most cases, a low TSH suggests the presence of hyperthyroidism. If a patient is on thyroxine for treatment of hypothyroidism, a low TSH would suggest over-replacement and warrant a reduction in dose. In a patient not on thyroxine, a low TSH usually suggests the presence of hyperthyroidism and further investigations, including measurement of FT4/FT3 levels, antibodies, thyroid uptake and scan are required to establish the cause of hyperthyroidism and offer appropriate treatment.

Answered by:

Dr. Hasnain Khandwala

Ruling out Celiac Disease in a Patient with IBS

17. How should we rule out celiac disease in someone with irritable bowel symptoms (diarrhea)?

Question submitted by:
Dr. Anne Sorensen
Oshawa, Ontario

Irritable bowel syndrome (IBS) is a functional GI disorder characterized by abdominal pain and altered bowel habits in the absence of organic pathology. The change in bowel habits can consist of diarrhea, constipation or alternating diarrhea and constipation. IBS is very common, affecting 10% to 20% of the general population. The Rome diagnostic criteria have been established to aid in the diagnosis of this condition.

Celiac disease can present with symptoms suggestive of irritable bowel disease. It has been shown that up to 5% of patients who meet the Rome criteria actually have celiac disease.[1] It has also been shown to be cost effective to screen patients with diarrhea predominant IBS for celiac.[2] The best way to screen a patient with symptoms of diarrhea predominant IBS to evaluate for celiac disease is to order an IgA anti-tissue transglutaminase.

References
1. Sanders DS, Carter MJ, Hurlstone DP, et al: Association of Adult Coeliac Disease with Irritable Bowel Syndrome: A Case-Control Study in Patients Fulfilling ROME II Criteria Referred to Secondary Care. Lancet 2001; 358(9292):1504-8.
2. Spiegel BM, DeRosa VP, Gralnek IM, et al: Testing for Celiac Sprue in Irritable Bowel Syndrome with Predominant Diarrhea: A Cost-Effectiveness Analysis. Gastroenterology 2004; 126(7):1721-32.

Answered by:

Dr. Jerry McGrath

Treating a Post-Menopausal Woman with Dyslipidemia

18. How to treat a post-menopausal female with dyslipidemia and no significant CV risk factors?

Question submitted by:
Dr. Jeffrey Hesselson
North Battleford, Saskatchewan

Physicians should screen all women who are post-menopausal and/or ≥ 50 years with a full lipid profile (after a nine hour to 12 hour fast) every one to three years. Currently, Framingham Risk Score is recommended for the initial assessment of patient cardiac risk categories. If there are no significant cardiac risk factors present and the patient is assessed to be of low cardiac risk (10-year coronary artery disease risk < 10%), treatment is generally advised for those with categorical dyslipidemia (LDL-C level of ≥ 5.0 mmol/L, or a total cholesterol/HDL-C ratio of ≥ 6.0).

Resource
1. McPherson R, Frohlich J, G Fodor, et al: Canadian Cardiovascular Society Position Statement–Recommendations or the Diagnosis and Treatment of Dyslipidemia and Prevention of Cardiovascular Disease. Can J Cardiol 2006; 22(11):913-27.

Answered by:

Dr. Chi-Ming Chow

Allergies to Latex

19. Poinsettias are banned in some hospitals because they contain latex. Is this true? Please comment on risk and safety issues arising.

Question submitted by:
Dr. Ronan O'Shea
Clarenville, Newfoundland

Patients with latex allergy will react to proteins in natural latex rubber. Exposure via inhalation, topical exposure through breaks in the skin or mucosal contact may cause allergic reactions. Exposures during surgery or dental work may be associated with particularly severe reactions, but latex anaphylaxis may occur by exposure via any route. Repeated exposures in latex-sensitized patients may cause progressive intensification of reactions.

Some foods contain proteins that cross-react with latex and may cause allergic reactions in latex-allergic patients. The foods in the latex family are avocado, banana, chestnut and kiwi. Ingestion of these foods may give rise to severe allergic reactions.

Airborne latex protein may give rise to reactions by inhalation. For example, talc or cornstarch in latex gloves may contain substantial amounts of latex protein. Snapping gloves on or off may cause the latex protein to become aerosolized, thereby exposing sensitized individuals, giving rise to allergic reactions. If the latex protein is not aerosolized, patients will not run the risk of reactions by inhalation. This principle applies to other proteins known to be cross-reactive to latex. While poinsettias exhibit some cross-reactivity with other members of the rubber tree family, the clinical significance of this cross-reactivity is minimal. There may be a theoretical risk of an allergic reaction with exposure to plant secretions if a leaf or stem is injured, but the risk is deemed to be minimal by experts in the field of latex allergy.

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Answered by:

Dr. Peter Vadas

Exposure via inhalation, topical exposure through breaks in the skin or mucosal contact may cause allergic reactions.