Answers to your questions from our medical experts

1. Bartholin Cyst

Should a patient with a Bartholin cyst have surgery or antibiotics?

Submitted by: Steve Choi, MD, Oakville, Ontario

A Bartholin cyst requires no treatment as it is a painless, benign lesion which occurs due the blockage of the Bartholin gland duct. If the cyst bothers the patient due to its location then excision is the treatment. A Bartholin abscess is an infection in the gland once it has become blocked and is extremely painful. A Bartholin abscess is treated by incision and drainage; an alternative is marsupialization (where the cyst wall is sutured to the skin) to maintain patency. This is followed by packing or placement of a Word catheter to allow for continued drainage and healing. This can only be done after the gland has become fluctuant. Prior to this, a sitz bath in warm salty water helps relieve pain as well as promotes abscess formation. Adequate pain relief is a must. Treatment with antibiotics has no advantage as there is little to no penetration into the infected area.

Answered by: Dr. Victoria Davis

2. Metformin Use in Renal Failure

At what point in the treatment of Type 2 diabetes in association with chronic kidney disease (CKD) that is progressing should one withdraw metformin?

Submitted by: Walter Kealy, MD, Levack, Ontario

Metformin is withdrawn because of the rare cases of lactic acidosis that have been reported. The Canadian Diabetes Association states that it should be used cautiously if the creatinine clearance (CrCl) is < 60 ml/min. Therefore, at a CrCl between 30 ml/min and 60 ml/min, many recommend half maximum doses such as 500 mg b.i.d. Metformin is contraindicated when the CrCl is < 30 ml/min.

Answered by: Dr. Vincent Woo

3. Non-Alcoholic Fatty Liver Disease

Can a fatty liver cause pain?

Submitted by: Sumitha Ramachandran, MD, Ottawa, Ontario

Non-alcoholic fatty liver disease (NAFLD) is one of the most common liver disorders in industrialized countries. NAFLD usually is incidentally discovered while investigating the cause of elevated liver enzyme levels or the finding of hepatomegaly noted during physical examination or imaging to evaluate an unrelated medical condition.[1] While commonly asymptomatic, NAFLD may be associated with symptoms of fatigue, malaise and vague abdominal pain. This pain is thought to be caused by distention of the liver capsule and is typically felt as a deep-seated right upper quadrant ache. Pain from liver capsule distension is conveyed by afferent nerve fiber and tends to be dull, burning, poorly localized and of more gradual onset and longer duration.[2] Stimulation of these fibers activates local regulatory reflexes mediated by the enteric nervous system and long spinal reflexes mediated by the autonomic nervous system, in addition to transmitting pain sensation to the central nervous system.

NAFLD patients with a history of abdominal pain will often demonstrate hepatic tenderness on physical examination, which can be elicited by compression of the subcostal margin or percussion over the liver. However, abdominal pain is not found in every patient with NAFLD and a patient with NAFLD may have abdominal pain from other causes, such as somatic etiologies. In order to diffentiate visceral vs. somatic types of pain, Carnett's test (accentuated localized tenderness with abdominal wall tensing) is a helpful diagnostic sign, especially when incorporated with other findings.

References
1. Argo CK, Caldwell SH: Epidemiology And Natural History Of Non-Alcoholic Steatohepatitis. Clin Liver Dis 2009; 13(4):511-31.
2. Sleisenger & Fordtran's Gastrointestinal and Liver Disease. Eighth Edition. Saunders, 2006. p.1794-95.
3. Srinivasan R, Greenbaum DS: Chronic Abdominal Wall Pain: A Frequently Overlooked Problem. Practical Approach To Diagnosis And Management. Am J Gastroenterol 2002; 97(4):824-30.

Answered by: Dr. Robert Bailey and Dr. Richard Sultanian

4. Ciclopirox for Treatment of Onychomycosis

How effective is ciclopirox in treating onychomycosis?

Submitted by: Danaze Chambers, MD, Banff, Alberta

Ciclopirox olamine is an antifungal agent that is active against dermatophytes and yeasts. Ciclopirox olamine 8% nail lacquer, the only topical agent approved for treating onychomychosis, is applied nightly for one week then removed with alcohol weekly and repeated. Treatment requires prolonged daily use for nine to 12 months. The long treatment period is due to minimal penetration of the drug into the nail and the slow growth of toenails. It is generally well-tolerated and extremely safe. Only rarely is there local burning or itch during application. With meticulous, prolonged use, cure rates are roughly 30%.

Systemic antifungal agents (*e.g.*, terbinafine, itraconazole) are much more effective, with cure rates from 60% to 80% with only three to four months of treatment. However, systemic antifungals require careful use. Some are contraindicated in patients with heart, liver and kidney disease, require close monitoring with regular blood tests and have a multitude of potentially serious drug interactions. Topical ciclopirox nail lacquer is particularly useful in patients that do not wish systemic treatments and their possible side-effects.

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

5. Prophylactic Medication for Migraines with Aura

What would be the prophylactic medication of choice for a 35-year-old female who has migraines with aura (no other neurological components)? Headaches only occur three to four times per year, but are severe and incapacitating, with pain, nausea and vomiting.

Submitted by: Tamara Siddall, MD, Windsor, Ontario

Most experts suggest the use of prophylactic medications for migraine if the headaches are occuring at least a few times a month and severe enough to cause the patient to miss school or work. Since her headaches are occurring only three to four times a year, although severe and incapacitating, she may use abortive treatments such as triptan therapy if less potent medications are not helpful to relieve her headaches.

However, the triptans have better results if taken in the beginning of the onset of headache phase or aura. Most of the triptans can be repeated safely a few times in 24 hours and are very effective in relieving the headache or preventing it from becoming more intense if taken in the beginning as mentioned above. Thus, due to decreased frequency of headaches, she may not be required to take prophylactic medications on a daily basis.

Answered by: Dr. Abdul Qayyum Rana

6. Tonsil Stones

Can you comment on tonsil stones?

Submitted by: Miguel Imperial, MD, Vancouver, British Columbia

Tonsil stones or tonsiliths are harmless, yellowish, cheesy, foul-smelling and tasting lumps. They are the result from the accumulation of material retained within the tonsillar crypts, particularly of dead white blood cells, bacteria and fungi.

The majority of patients are asymptomatic, but studies have shown that tonsil stones are associated with halitosis and may cause tonsil swelling, foreign body sensation, metallic taste, choking and otalgia. Diagnosis is usually made by inspection by the patient itself or the physician. To prevent formation of tonsiliths, gargling with a mouthwash and frequent teeth brushing is recommended. The easiest way to remove tonsil stones is by pressing a finger or cotton swab against the affected tonsil to express the tonsilith. Rarely, a tonsillectomy may be indicated in severe cases.

Answered by: Dr. Jonathan Irish and Dr. Boban Erovic

7. Lymphangioma Circumscriptum

What is lymphangioma circumscriptum? What causes it? What is the best treatment?

Submitted by: Michael Pilgrim, MD, Pouce Coupe, British Columbia

Lymphangioma circumscriptum is a type of superficial lymphangioma and represents a hamartomatous malformation of the lymphatics affecting the skin and subcutaneous tissue. These lesions are benign and have no malignant potential.

Lymphangioma circumscriptum presents clinically as groups of translucent, clear vesicles that have been likened to “frogspawn.” These vesicles correspond to dilatations of lymphatic vessels in the upper dermis, pushing the overlying epidermis upward. Although these vesicles are typically clear, it is not uncommon for some to have bleeding into them, giving them a hemorrhagic appearance.

The best treatment for lymphangioma circumscriptum is complete surgical excision. However, there is a high rate of local recurrences as it is felt that there is often a deep component of lymphatic dilatations (cisterns) in the subcutaneous tissue that are missed if the excision is too superficial. Other potential treatments reported in the literature include cryotherapy, sclerotherapy, electrodesiccation and carbon dioxide laser vaporization.

Answered by: Dr. Richard Haber

8. Causes of Polycythemia

What are the causes of polycythemia in the general population?

Submitted by: I. D'Souza, MD, Willowdale, Ontario

Polycythemia, also called erythrocytosis, refers to an elevated red cell mass and is often estimated by the hematocrit value. The first step is to determine if there is a true (absolute) or an apparent (relative) increase in the red cell mass. Apparent polycythemia occurs when an elevated hematocrit is present due to a relative decrease in plasma volume compared to red blood cells rather than an absolute increase in the red blood cell mass. This may occur due to dehydration or diuretic use, for example. True polycythemia may result from a primary bone marrow malignancy such as polycythemia vera or secondary to factors that increase erythropoietin (EPO) production and erythropoiesis. These secondary causes can be due to hypoxia, EPO secreting tumours, exogenous administration of EPO or rare high affinity hemoglobinopathies.

Answered by: Dr. Cyrus Hsia and Dr. Leonard Minuk

9. Positive D-Dimer

A patient without any risk factors for pulmonary embolism (PE) presents with pleuritic chest pain. A D-dimer comes back positive a week later. By then, the patient is asymptomatic. What should the follow-up be?

Submitted by: Anonymous

D-dimer is a byproduct of fibrin degradation and is non-specific for PE. D-dimer is elevated in patients with recent surgery, inflammatory conditions or trauma. If there is no alternative explanation for this patient's pleuritic chest pain (*i.e.*, musculoskeletal, pericarditis, pneumonia/pleuritis) and for the elvated D-dimer, I would recommend a Doppler ultrasound of leg veins or a ventilation perfusion lung scan to ensure the patient has not had a PE. Despite absence of known risk factors, she could have an occult malignancy or a hypercoagulable state and may benefit from anticoagulation.

Answered by: Dr. Bibiana Cujec

10. Immunization from Pneumococcal Pneumonia

How long does immunization from pneumococcal pneumonia last before requiring booster dosing?

Submitted by: Kenneth R. Loader, MD, Brandon, Manitoba

There are currently two types of pneumococcal vaccines available in Canada. The conjugate vaccine (pneumococcal 7-valent conjugate vaccine) is recommended for routine administration for all children < 24 months-of-age. It is, however, recommended for children 24- to 59-months-of-age who are at high risk of invasive pneumococcal disease. The long-term efficacy of the conjugate pneumococcal vaccine is not known, however, "immunologic memory" has been observed 18 months after two to three doses in infants and up to 20 months after one dose in children two- to three-years-of-age.

The polysaccharide vaccine (23-valent vaccines) are recommended for the use in adults. This vaccine is not recommended in children less than two-years-of-age, as it is ineffective. The polysaccharide vaccine should be administered to all persons more than five-years-of-age who have not received the vaccine previously and who are at high risk of invasive pneumococcal disease. In addition, the polysaccharide pneumococcal vaccine is recommended for all individuals > 65-years-of-age. Following polysaccharide pneumococcal vaccine immunization, antibody levels decline after five to 10 years. The precise duration of immunity is unknown.

For the conjugate vaccination, further booster doses are not thought to be necessary beyond the primary immunization schedule. With regards to the polysaccharide vaccine, however, routine re-immunization of those who have been previously vaccinated is not recommended except for those persons who are considered to be susceptible to invasive pneumococcal disease (functional or anatomic asplenia, sickle cell disease, hepatic sclerosis, chronic renal failure, infection with HIV/AIDS, immunosuppression from any cause). If re-immunization is carried out, only a single re-immunization after five years is recommended for those who are > 10-years-of-age at the time of the initial immunization with the polysaccharide vaccine and for those that are < 10-years-of-age at the time of the initial vaccination, the re-vaccination should occur after three years.

A more thorough discussion of this topic can be found in the Public Health Agency of Canada's Canadian Immunization Guide 7th Edition, 2006 in the Chapter about Pneumococcal Vaccine. This may be accessed on the internet at: http://www.phac-aspc.gc.ca/publicat/cig-gci/p04-pneu-eng.php.

Answered by: Dr. John M. Embil

11. Best Antidepressant for Hyponatremia or Polydipsia

Which is the best antidepressant to use in patients with hyponatremia or polydipsia?

Submitted by: **Alina Czarlinska, MD,** Montreal, Quebec

Hyponatremia (clinically defined as sodium levels of < 135 mmol/L) is a recognized side-effect of all classes of antidepressants: selective serotonin reuptake inhibitors (SSRIs), venlafaxine, trazodone, mirtazapine, bupropion, tricyclic antidepressants and monoamine oxidase inhibitors. Studies have shown, however, that different classes have different levels of risk. The SSRIs have been shown to have two to four times the risk of hyponatremia than tricyclics do. Increasing age is a risk factor for hyponatremia as well as some medical conditions such as conditions which cause damage to the kidneys (hypertension, diabetes), renal failure, heart failure, circulating volume depletion and malignancies. Also, psychotic polydipsia can cause hyponatremia as a result of water intoxication.

When prescribing antidepressants for elderly and medically ill patients, physicians are alerted to the possibility of SSRI- or venlafaxine-associated hyponatremia and should monitor pretreatment and post-treatment sodium levels.

Resource

1. Bugunovic OJ, Sotelo J, Madhusoodanan S: Hyponatremia Secondary to Antidepressants. Psychiatr Ann 2003; 33:333-9.

Answered by: **Dr. Hany Bissada**

12. Blood Sugar Control in Type 2 Diabetes

? In Type 2 diabetes, blood sugar control may not improve mortality, but does improve morbidity. Please explain.

Submitted by: Rajendranath Ramgoolam, MD, Winnipeg, Manitoba

Based on good randomized controlled trials, both in Type 1 and Type 2 diabetes mellitus, tight glycemic control reduces the risk of microvascular complications (nephropathy, neuropathy and retinopathy). For macrovascular complications, tight glycemic likely reduces the risk of coronary artery disease (CAD) and stroke only if glycemia is treated early in their disease before clinical macrovascular disease has been established. However, if the diabetes mellitus is longstanding and macrovascular disease is established, there is no benefit and one study even showed harm with respect to CAD. For most, the target A1c should be < 7% and in some < 6.5% if it can be safely achieved if not long duration of diabetes mellitus and no established CAD.

For resources, please contact diagnosis@sta.ca

Answered by: Dr. Ally Prebtani

13. How Skin Striae Develops and How to Treat

? What causes skin striae to develop (besides pregnancy and muscle hypertrophy)? How can it be treated?

Submitted by: Mark D'Souza, MD, London, Ontario

Striae distensae (stretch marks) often present as flattened areas of skin with an erythematous hue (striae distensae rubra) which over time become whitish (striae distensae alba) and depressed. The cause of striae is unknown but they often develop in areas of mechanical stretching. Histologically, striae resemble scars and in well-developed cases there is thinning of the epidermis and loss of collagen and elastin in the dermis.

Striae are most frequently associated with pregnancy, obesity and weight lifting emphasizing the role of mechanical stretching but can also be seen with normal growth spurts in adolescence, from prolonged potent topical or oral corticosteroid therapy, Cushing's syndrome and can be seen in Marfan's syndrome.

Treatment is not very effective and is best instituted early. Topical tretinoin cream is the most reported therapy and appears to work best in treating striae distensae rubra with little effect on striae distensae alba.

Laser, especially pulsed dye laser, may also be effective for early lesions (striae distensae rubra) and there is current interest in fractional photothermolysis as a potentially beneficial treatment for striae distensae. Dx

Answered by: Dr. Richard Haber