Consultant's Corner

Practical Answers To Your Everyday Questions

Investigations for Patient with Ferritin in the 300s

1.

What investigations can you suggest for an otherwise healthy patient with ferritin in the 300s? Other lab tests show nothing except for a mild fatty liver.

Question submitted by:
Dr. Efrem Alemayehu
Toronto, Ontario

Ferritin is a macromolecular complex that contains thousands of iron atoms. A small but measurable amount of soluble ferritin circulates in the intravascular compartment that is in balance with the intracellular compartment. The serum ferritin level is then used as a surrogate marker of a patient's total body iron stores. However, this measurement is fraught with problems due to the fact that serum ferritin is an acute phase reactant that can be elevated in many other clinical settings such as infections or inflammation. The first step after a thorough history and physical examination is to determine if there is a historical ferritin level to compare to. Should this value continue to increase on repeating the test, one should consider iron overload (referred to as hemochromatosis). This can be hereditary, such as Hereditary Hemochromatosis (HH), or acquired due to iatrogenic blood transfusions or excessive consumption of iron supplements. Typically, HH presents in the fifth and sixth decades when increased iron absorption has accumulated to significant levels. The screening test for HH is a molecular diagnostic test to assess for the common mutations in the HFE gene. Regardless of the cause of hemochromatosis, it is essential to determine the clinical effect on end organs such as the liver, pancreas and heart, and to manage these appropriately.

Dr. Kang Howson-Jan and
Dr. Cyrus Hsia

Acne Vulgaris Treatment

2.

Is tetracycline or minocycline still considered to be the first choice antibiotic in the treatment of acne vulgaris?

Question submitted by:
Dr. Roshan Dheda,
Bradford, Ontario

The tetracycline antibiotics are first line agents for acne as they are generally well tolerated in prolonged therapy and are generally effective. As for the distinction between these agents, tetracycline is a bit more onerous for compliance and needs to be taken on an empty stomach due to its absorption properties. As well, tetracycline needs to be taken a few times a day for best results, due to its short half life of about six hours. Minocycline and Doxycycline with half lives of 12 to 16 hours are able to be taken once a day and are less affected by food. Minocycline has a risk of hepatic toxicity, dizziness and pigmentation. Doxycycline carries an increased incidence of phototoxicity. Alternatives for therapy are erythromycin and sulfa antibiotics.

Answered by:
Dr. Scott Murray

Treatment of Thrombosed Hemorrhoids

3.

When do thrombosed hemorrhoids need treatment?

Question submitted by:
Dr. Vincent Luykenar
Coaldale, Alberta

Hemorrhoidal disease is a common entity in clinical practice. Hemorrhoids are a normal part of the human anorectum and arise from connective tissue cushions within the anal canal. The most common presentation is rectal bleeding and pruritus. A patient with a thrombosed external hemorrhoid usually presents with complaints of an acutely painful mass. Pain truly associated with hemorrhoids usually arises only with acute thrombus formation. This pain peaks at 48 to 72 hours. It begins to decline by the fourth day as the thrombus organizes.

The differential diagnosis for acute anal pain includes an intersphincteric abscess or anal fissure. Up to 20% of patients with hemorrhoids will also have an anal fissure.

Acutely thrombosed external hemorrhoids may be safely excised in patients who present within 48 to 72 hours of the onset of symptoms. Infiltration of a local anesthetic is followed by incision and excision of the thrombosed hemorrhoid. Simple incision and clot evacuation is inadequate therapy. In patients presenting after 72 hours conservative medical therapy is preferable. This consists of sitz baths; a high-fiber diet; adequate fluid intake; stool softeners; topical and systemic analgesics; proper anal hygiene; and in some cases, a short course of topical steroid cream. The prolonged use of topical steroids should be avoided.

Answered by:
Dr. Jerry McGrath

Insulin Inhalers Update

4.

Has there been any news about insulin inhalers?

Question submitted by:
Dr. Michel Bernier
Ste-Foy, Quebec

Inhaled insulin was available and marketed in the United States by Pfizer under the brand name Exubera; however, it did not gain popularity. The inhalation device was bulky and there were issues with administering the correct insulin dosage. Patients actually found the injections less cumbersome to use. Though Exubera was approved for use in Canada, it was taken off the market before being introduced. Other companies are testing inhaled insulin using smaller devices, which are easier to use. There are also concerns about inter- and intra-individual variability in absorption of insulin, particularly in the presence of underlying lung disease or asthma, and in smokers.

Answered by:
Dr. Hasnain Khandwala

Evaluating the Virulence of Hepatitis B and C

5.

How do I evaluate the virulence of the hepatitis B and C viruses *etc*...? (viral load, replication, *etc*.)?

Question submitted by:
Dr. Hieu Dinh Nguyen
Gatineau, Quebec

Assessing the virulence of viral hepatitis in any individual case remains difficult. Virulence should really be separated into the risk for fibrosis/cirrhosis, and the risk for hepatocellular cancer, although the two are linked. There is clearly a general association in both hepatitis B and C between the degree of transaminase elevations and both of these complications. However, some patients with apparently "normal" transaminases do go on to develop complications, and in other cases the elevated transaminases are due to other unrelated problems. In hepatitis B, low viral loads, together with normal enzymes provide some reassurance. In some cases, only liver biopsy – which may need to be repeated over time – can provide a reasonable estimate of the speed of progression of either disease. Yet, even this can be imperfect, due to small samples and the inhomogeneous involvement of the liver. At this point, for those not being actively treated (due to low disease activity or other contraindications for treatment), regular screening using at least ultrasound, transaminase levels and alpha-fetoprotein measurement (as well as blood DNA levels for hepatitis B) is recommended. It is important to note that according to some experts, "regular" means as often as every six months. Some other non-invasive measures for preventing liver fibrosis are being evaluated.

Answered by:
Dr. Michael Libman

Best Chronic-allergic Rhinitis Treatment

6. What is the best treatment for chronic non-allergic rhinitis (i.e., vasomotor rhinitis)?

Question submitted by:
Dr. D. L. Zatelny
Barrie, Ontario

Rhinitis is generally categorized as allergic or nonallergic, with vasomotor rhinitis in the nonallergic family. The symptoms of allergic and nonallergic rhinitis overlap significantly, but the causes appear to be entirely different. Allergic rhinitis is triggered by exposure to allergens and include nasal itching, rhinorrhea, postnasal discharge, and nasal blockage caused by inflammation of the nasal mucous membranes. On the other hand, nonallergic rhinitis, can be sporadic or perennial. It includes a group of rhinitis syndromes united by nonspecific symptoms of clear rhinorrhea with less prominent sneezing, and conjunctival irritation (see Table 1).

Table 1
Types of Nonallergic Rhinitis

- Drug induced
- Gustatory
- Hormonal
- Infectious
- Nonallergic rhinitis with eosinophilia syndrome
- Occupational
- Vasomotor

In vasomotor rhinitis, the symptoms are exacerbated by certain odours, alcohol, spicy foods, and other factors such as temperature, barometric changes, and bright lights. Patients with vasomotor rhinitis are further divided into two subgroups: "runners," who demonstrate "wet" rhinorrhea; and "dry" patients, who exhibit nasal obstruction and airflow resistance with minimal nasal discharge. No specific test is available to diagnose vasomotor rhinitis. In clinical practice, allergic rhinitis is excluded or implicated as the cause of symptoms by using skin testing or by evaluation for specific IgE antibodies. Once a working diagnosis of vasomotor rhinitis has been made, the patient must avoid known environmental triggers as much as possible. These include the exacerbating factors mentioned earlier. A stepwise pharmacologic approach may then be employed. If the presenting symptom is solely rhinorrhea, a topical anticholinergic is the logical first step. With nasal congestion and obstruction only, topical corticosteroids would be a wise starting point for therapy. If the patient presents with the full range of symptoms, including rhinorrhea with sneezing, postnasal drip and congestion, a topical antihistamine may be initiated. Exercise is also useful, because it decreases airway resistance. The empiric use of the topical decongestant ephedrine on a chronic basis should not be encouraged, since it will result in tolerance and development of rhinitis medicamentosa.

Answered by:
Dr. Ted Tewfik

Nuchal Translucency Found by Integrated Prenatal Screening

7.

A recent Integrated Prenatal Screen (IPS) ultrasound (US) showed an abnormal nuchal translucency (NT) – described as a cystic hygroma (CH). Please discuss.

Question submitted by:
Dr. Laura McConnell
Mississauga, Ontario

The ultrasound (US) portion of an IPS at 10 to 14 weeks gestation evaluates the nuchal fold, a small hypoechoic space at the posterior fetal neck. An increased amount of fluid in this space has been associated with increased risk for fetal aneuploidy, traditionally Trisomy 21, and other conditions including Turner Syndrome (TS) monosomy X. Increased NT can result from a number of causes. In TS, a congenital malformation of the lymphatic system results in obstruction and accumulation of lymphatic fluid, seen in the nuchal region. In Trisomy 21, there is an increase in fluid due to altered dermal collagen composition resulting in fluid absorption. Enlarged NT can also signify congenital heart disease, due to distorted venous pressures. With refinements in US, septi are being seen in thickened nuchal folds, and distinguishing CH due to lymphatic obstruction, from a septum in thickened nuchal fold due to another cause, is more difficult. Regardless of the etiology, an increase in NT requires further investigation.

Answered by:
Dr. Cathy Popadiuk

Differentiating Features of Various Personality Disorders

8. Please use layman's language to elucidate the differentiating features of various types of personality disorders

Question submitted by:
Dr. Z.B. Anasari

There is an excellent collection of mnemonics from Pinkofsky that are extremely useful in determining the differentiating features of the various types of personality disorders that I regularly use for teaching.[1] These mnemonics are based on the fact that there are the three clusters as pre-defined in the DSM-IV, and they relate to the degree of pathology and impact on the individuals functionality. Cluster A can be defined as "Mad", Cluster B as "Bad" and Cluster C traits as "Sad". By and large, these personality traits and disorders fall under Axis 2.[2-4]

For references please write to
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Answered by:
Professor Joel Lamoure

Cluster A[1]
Odd, Eccentric Group Psychotics

Paranoid personality disorder: SUSPECT (4 criteria).
S: Spouse infidelity suspected
U: Unforgiving (bears grudges)
S: Suspicious of others
P: Perceives attacks (and reacts quickly)
E: "Enemy or friend" (suspects associates, friends)
C: Confiding in others feared
T: Threats perceived in benign events

Schizoid personality disorder: DISTANT (4 criteria).
D: Detached (or flattened) affect
I: Indifferent to criticism and praise
S: Sexual experiences of little interest
T: Tasks (activities) done solitarily
A: Absence of close friends
N: Neither desires nor enjoys close relations
T: Takes pleasure in few activities

Schizotypal personality disorder: ME PECULIAR (5 criteria).
M: Magical thinking or odd beliefs
E: Experiences unusual perceptions
P: Paranoid idea generation
E: Eccentric behaviour or appearance
C: Constricted (or inappropriate) affect
U: Unusual (odd) thinking and speech
L: Lacks close friends
I: Ideas of reference
A: Anxiety in social situations
R: Rule out psychotic disorders and pervasive developmental disorder

Cluster B[1]
Dramatic, Erratic Group Extroverts

Antisocial personality disorder: CORRUPT (3 criteria).
C: Conformity to law lacking
O: Obligations ignored
R: Reckless disregard for safety of self or others
R: Remorse lacking
U: Underhanded (deceitful; lies or cons others)
P: Planning insufficient (impulsive)
T: Temper (irritable and aggressive)

Borderline personality disorder: AM SUICIDE (5 criteria).
A: Abandonment
M: Mood instability (marked reactivity of mood)
S: Suicidal (or self-mutilating) behaviour
U: Unstable and intense relationships
I: Impulsivity (in two potentially self-damaging areas)
C: Control of anger
I: Identity disturbance
D: Dissociative (or paranoid) symptoms that are transient and stress-related
E: Emptiness (chronically)

Histrionic personality disorder: PRAISE ME (5 criteria).
P: Provocative (or sexually seductive) behaviour
R: Relationships considered more intimate than they are
A: Attention (uncomfortable when not the center of attention)
I: Influenced easily
S: Style of speech (impressionistic, lacks detail)
E: Emotions (rapidly shifting and shallow)
M: Made up (physical appearance used to draw attention to self)
E: Emotions exaggerated (theatrical)

Narcissistic personality disorder: SPECIAL (5 criteria).
S: Special (believes he or she is special and unique)
P: Preoccupied with fantasies (of unlimited success, power, brilliance, beauty or ideal love)
E: Entitlement
C: Conceited (grandiose sense of self-importance)
I: Interpersonal exploitation
A: Arrogant (haughty)
L: Lacks empathy

Cluster C[1]
Anxious, Fearful Group Neurotics

Avoidant personalty disorder: CRINGES (4 criteria).
C: Certainty of being liked required before willing to get involved with others
R: Rejection (or criticism) preoccupies one's thoughts in social situations
I: Intimate relationships (restraint in intimate relationships due to fear of being shamed)
N: New interpersonal relationships (is inhibited in)
G: Gets around occupational activity (involving significant interpersonal contact)
E: Embarrassment (potential) prevents new activity or taking personal risks
S: Self viewed as unappealing, inept or inferior

Dependent personality disorder: RELIANCE (5 criteria).
R: Reassurance required for decisions
E: Expressing disagreement difficult (due to fear of loss of support or approval)
L: Life responsibilites (needs to have these assumed by others)
I: Initiating projects difficult (due to lack of self-confidence)
A: Alone (feels helpless and discomfort when alone)
N: Nurturance (goes to excessive lengths to obtain nurturance and support)
C: Companionship (another relationship) sought urgently when close relationship ends
E: Exaggerated fears of being left to care for self

Obsessive-compulsive personality disorder: LAW FIRMS (4 criteria).
L: Loses point of activity (due to preoccupation with detail)
A: Ability to complete tasks compromised by perfectionism
W: Worthless objects (unable to discard)
F: Friendships (and leisure activities) excluded (due to a preoccupation with work)
I: Inflexible, scrupulous, over conscientious (on ethics, values, or morality, not accounted for by religion or culture)
R: Reluctant to delegate (unless others submit to exact guidelines)
M: Miserly (towards self and others)
S: Stubbornness (and rigidity)

Heme Iron Vs Ferrous Compounds for Fe-deficiency Anemia

9.

How does heme iron compare with ferrous compounds for Fe-deficiency anemia?

Question submitted by:

Dr. Christopher Lam
Victoria, British Columbia

Dietary nonheme iron and ferrous salts in oral iron supplements are absorbed through the proximal duodenum. The molecular mechanism is understood relatively well now (see Andrews NC, Blood). However, the absorption of heme iron is not well understood, but it is believed to be better absorbed than nonheme iron. Sources high in heme iron include meats and liver. Heme iron is also available as an oral supplement called heme iron polypeptide.

Currently, there are no head to head studies comparing heme iron versus any of the oral ferrous salts for the treatment of iron deficiency anemia. Use of heme iron in this setting should be used on a case by case basis at the discretion of the treating physician, based on the needs of the patient and potential intolerances and side effects.

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Reference:
1. Andrews NC. Forging a Field: The Golden Age of Iron Biology. Blood. 2008: 112:219-230.

Answered by:
Dr. Kang Howson-Jan and Dr. Cyrus Hsia