1. How do you recognize diastolic congestive heart failure?

How do you recognize diastolic congestive heart failure? Do you recognize it clinically, or can it only be diagnosed through elimination using an echocardiogram?

Question submitted by:
Dr. Kim Steprey
Langley, British Columbia

Diastolic dysfunction is present when patients are found to have heart failure (HF) symptoms with normal left ventricular (LV) systolic function. It is estimated that 40% of HF patients have preserved LV systolic function. Vasan and Levy proposed the following hierarchical steps for confirming a diagnosis of diastolic HF.[1]

1. Obtain definitive evidence of HF using the Framingham criteria.[2]
2. Obtain objective evidence of normal LV systolic function (left ventricular ejection fraction (LVEF) ≥40%) in proximity to the HF event by echocardiogram or nuclear ventriculogram (MUGA).
3. Obtain objective evidence of diastolic dysfunction by echo-Doppler studies or multiple gated acquisition blood pool scan (MUGA).

Answered by:
Dr. Chi-Ming Chow

References
1. Vasan RS, Levy D: Defining diastolic heartfailure: A call for standardized diagnostic criteria. Circulation 2000; 101(17):2118-21.
2. McKee PA, Castelli WP, McNamara PM, et al:The natural history of congestive heart failure: the Framingham study. N Engl J Med 1971; 285(26): 1441-6.

2. Rheumatic drugs and pregnancy

What anti-rheumatic drugs can be safely used during pregnancy and/or while breast-feeding?

Question submitted by:
Dr. Jiade Chen
Toronto, Ontario

Three groups of anti-rheumatic medications may be used in pregnancy with caution. Low dose corticosteroids, including hydrocortisone, cortisone and prednisone (which do not cross to the foetus), may be used. High doses of prednisone 1 mg/kg to 2 mg/kg, every day, in the first trimester should be avoided due to risks to the palate clefts.

Non-steroidal anti-inflammatory drugs (NSAIDs) should be avoided after the 32nd week, due to risks of foetal and post-partum bleeding and premature closure of the ductus arteriosus.

Although the disease modifying agents hydroxychloroquine, sulphasalazine and azathioprine may be used, the later two should be used with caution. Corticosteroids, NSAIDs and hydroxychloroquine may be used during lactation but azathioprine should be avoided.

Answered by:
Dr. Mary-Ann Fitzcharles

3. Understanding thrombocytopenia

What are the causes of thrombocytopenia?

Question submitted by:
Dr. I. D'Souza
Willowdale, Ontario

Thrombocytopenia can be related to decreased production, abnormal distribution, or destruction. Bone marrow failure of production can be acquired from:

- drugs (particularly anal gesics/ toxins/ radiation)
- aplastic anemia,
- hepatitis,
- replacement by primary or secondary malignancy,
- B-folate deficiency,
- Systemic Lupus Erythematosus (SLE) and
- drug-induced disseminated intravascular coagulopathy,
- secondary to lymphoproliferative disorder and
- hemolytic-uremic syndrome.

Peripheral destruction can be seen in cases of:

- thrombotic thrombocytopenic purpura,
- idiopathic (immune) thrombocytopenic purpura,

Thrombocytopenia can also be associated with HIV and other viral infections.

Abnormal distribution occurs in cases of splenomegaly, such as liver diseases and myelofibrosis.

Answered by:
Dr. Kang Howson-Jan

4. The lowdown of C-sections

Is there a maximum number of C-sections a person can have?

Question submitted by:
Dr. Xiandieu Nguyen
Calgary, Alberta

There is no defined maximum number of *Cesarean* sections. Furthermore, there are few studies in the literature that examine morbidity with higher orders of repeat sections.

With increased laparotomies, adhesion formation is increased, which can lead to bowel and bladder injury as well as longer operative times and higher intraoperative blood loss. Increasing numbers of Cesarean sections are also associated with an increased incidence of placental complications (*i.e.* placenta previa, accreta and hysterectomy), especially after four previous C-sections.

The studies that do exist, generally indicate there are no significant differences in neonatal outcomes, Apgar scores or post-operative complications.

Answered by:
Dr. Susan Chamberlain

5. Can children use antidepressants?

Are there any safe antidepressants for use in children less than 18 years of age?

Question submitted by:
Dr. Melvin De Levie
Vancouver, British Columbia

There is a significant prevalence of major depressive disorders in children. Furthermore, death by suicide represents the third leading cause of death in teenagers. Compared to adults, there are few controlled trials with antidepressants in children and the Food and Drug Administration (FDA) has mandated that all antidepressants carry a black-box warning label that indicates antidepressants increase the risk of suicide in this age group. Only fluoxetine is approved by the FDA for the treatment of depression in children.

Sertraline, fluvoxamine, fluoxetine, and clomipamine are FDA approved for obsessive compulsive disorder in children. Citalopram and bupropion are used, but are not approved for children and paroxetine and venlafaxine are no longer recommended. Different pharmacokinetics and pharmacodynamics in children may lead to increased liability to side-effects, including:

- serotonin,
- withdrawal syndromes and
- a poor/delayed response with increased risk of suicide in early treatment.

Medication should be very closely supervised and combined with other treatment modalities, such as psychotherapy and family therapy. Factors that complicate response include:

- History of bipolarity and/or comorbidities such as substance use
- ADHD
- Anxiety disorders and
- Abuse (sexual, physical, emotional)

Answered by:
Dr. Pierre Chue

References
1. Bridge JA,Salary CB, Birmaher B, et al. The risks and benefits of antidepressant treatment for youth depression. Ann Med 2005;37(6):404-12.

A need for antibiotics?

6. Why do we continue to treat sore ears and sore throats with antibiotics?

Question submitted by:
Dr. Preeti Saini
Markham, Ontario

The treatment of sore ears and sore throats should not be antibiotics.

For sore throats, it is always recommended to take a swab and rule out bacterial infection with group A beta hemolytic streptococcus (GABHS). The treating physician can also use the rapid streptococcal screen. However, because surface swab is only accurate in identifying 40% to 60% of GABHS, empiric treatment could be used if strict diagnostic criteria are evident. The increasingly troublesome problem of drug resistance compels the physician to prescribe antibiotics thoughtfully.

The same principles apply for otitis media. However, in this case, obtaining a culture through paracentesis is only done by a specialist under certain conditions (neonates, immunocompromized patients, failure of multiple antibiotics, etc.).

The clinician here relies on his experience and the clinical picture to reach a proper diagnosis and avoid possible complications.

Answered by:
Dr. Ted Tewfik

Treating CAP

7. Why are macrolides the first-line treatment for CAP?

Question submitted by:
Dr. Pierre Goyer
Laval, Quebec

Macrolides are recommended as first-line treatment for CAP in an adult who is relatively healthy. This is the case because macrolides are active against virtually all the common etiologic agents, have little effect on other pathogens and clinical trials have proven their effectiveness.

Patients who have significant chronic lung disease, or who have received antibiotics recently (especially other macrolides) are more likely to be infected with clinically resistant organisms, so other agents should be used.

Broad spectrum agents, such as quinolones, are also clinically effective, but not superior. Extensive use of these agents will lead to the emergence of resistance among other non-respiratory flora such as gut coliforms and the eventual loss of utility of these essential agents for treating gram-negative infections.

Answered by:
Dr. Michael Libman

Want to know more about CAP? Read about it on page 74!

8. Colonoscopy screening: What tests should be run?

If someone is undergoing a screening colonoscopy every five years due to a family history of cancer, do they need an FOBT in between colonoscopies? Does anyone needing a regular colonoscopy require an FOBT in between colonoscopies?

Question submitted by:
Dr. Laura McConnell
Mississauga, Ontario

National guidelines have recommended several modalities for colon cancer screening. such as:

- Colonoscopy
- Sigmoidoscopy
- Barium enema
- Fecal occult blood testing (FOBT)

Carcinoembryonic antigen is not an appropriate screening test for colon cancer.

Although combining multiple screening tests seems appealing, there are drawbacks.

The positive predictive value of FOBT would be very low if used in a group already undergoing a colonoscopy. The large number of false positive results would lead to many unnecessary G1 evaluation. Periodic colonoscopy alone, the current gold standard, should be sufficient for colon cancer screening.

Answered by:
Dr. Mark R. Borgaonkar

9. Checking the hearing of an infant

Is there a reliable clinical office test to check the hearing of a three- or four-month-old infant?

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

The reliable way to check the hearing of a young baby is a combination of otoacoustic emissions (OAE) and auditory brain stem response (ABR). A failure pass on an OAE screening is not important if the ABR is normal. However, very few pediatrician or family practice offices are equipped with these instruments.

We usually rely on the history and on physical examination. The response to a mother's voice, sound-making toys, voicing "ooh" "baba" or imitating her own noises, are all milestones appropriate for a three- or four-month- old infant.

If the parents are worried about the baby's hearing and there is lack of the fore-mentioned signs, referral to a specialist is recommended.

Answered by:
Dr. Ted Tewfik

10. Is a TTG test useful in the diagnosis of CD?

How useful is a TTG test in the diagnosis of celiac disease?

Question submitted by:
Dr. Paulette Comeau
Red Deer, Alberta

Celiac disease (CD) is much more common than once thought, largely due to the emergence of serological tests. A tissue transglutaminase test (TTG) is 95% sensitive and specific, is available at most centres and is ideal to use as a screening test for CD.

Although mass screening for CD is not currently recommended, a high index of suspicion for CD should exist. A TTG test should be ordered for:

- first degree relatives of CD patients,
- patients with unexplained diarrhea,
- patients with an unexplained iron deficiency and
- patients with an autoimmune disorders (Type 1 diabetes or thyroiditis).

Answered by:
Dr. Mark R. Borgaonkar

11. NSAID safety

Are there any good NSAIDs for long-term use?

Question submitted by:
Dr. Mario Boutin
Charlesbourg, Ontario

The short answer is no. NSAIDs should be used for short courses of two to four weeks for acute problems and one to three months for less acute problems. Their peak anti-inflammatory effect occurs in 10 to 14 days. Once the symptoms have come under control the patient should attempt to reduce or discontinue the NSAID. If a patient can't tolerate discontinuation of their NSAID, they should be maintained on the lowest possible dosage that can still provide adequate symptom relief.

Blood pressure, complete blood cell count (CBC), creatinine and electrolytes should be monitored periodically in patients on long-term NSAIDs. All NSAIDs cause some sodium retention and are metabolized renally. When there is a compromise in renal function sulindac may be a little easier on the kidney than the other NSAIDs. The cyclooxygenase (COX_2) inhibitors may have better gastrointestinal tolerance than traditional agents.

When first generation NSAIDs are used long-term they should be combined with a proton pump inhibitor or misoprostol. This will protect the stomach at least as well as using a COX-2 inhibitor alone. Of the first generation NSAIDs, Ibuprofen has the most accumulated usage data and seems to be the safest within the group. Concern about cardiovascular risk should be considered in elderly patients on long-term NSAIDs, particularly if they have any history of coronary artery disease, heart failure or renal failure. The cardiovascular risk is probably not exclusive to the COX-2s.

Answered by:
Dr. John Jordan

12. Can PDT treat macular degeneration?

What forms of macular degeneration respond to photodynamic therapy?

Question submitted by:
Steve Coyle
Winnipeg, MB

Photodynamic therapy (PDT) has been used to treat predominantly classic subfoveal choroidal neovascularization (CNV) secondary to wet age-related macular disease, as well as occult choroidal neovascularization in wet AMD.

The success rate with classic CNV appears to be much greater than with occult and this is the reason why some health-providing agencies will cover the verteporfin treatment for classic CNV, but not for occult. PDT has also been used to treat macular degeneration due to pathological myopia and ocular histoplasmosis syndrome.

Because each treatment costs $2,700, the difference between the burden to the patient, or the burden to the Provincial Health Care System can be enormous.

PDT with verteporfin is not a single treatment. The present Treatment of Amd with Photodynamic therapy (TAP) recommends verteporfin every three months when leakage is present. Recent studies indicate that patients receive an average of 3.4 treatments in the first year and 2.0 treatments in the second year. The cost either to the patient or to the Provincial health budget averages $14,000 per eye in two years.

Recent complex quality-of-life analyses have, however, shown that PDT is an extremely cost-effective intervention. Unfortunately, this amounts to less than 5% of all those with age-related macular disease.

Newer anti-angiogenesis drugs, which do not require laser treatment but are injected either into the vitreous or into the periocular tissues are being extensively investigated. Some are inexpensive (*e.g.* triamcinolone) while the newer agents are extremely costly but are showing great promise.

Answered by:
Dr. Malcolm R. Banks

The cost either to the patient or to the Provincial health budget averages $14,000 per eye in two years.

13. Understanding low serum ferritin levels

Should we treat low serum ferritin levels that have normal Hb levels?

Question submitted by:
Dr. Soroj Premsagar
Halifax, Nova Scotia

The clinical situation is a very helpful determinant. The biochemical abnormality of iron deficiency occurs before the hematologic changes. However, in the older patient, low ferritin in the absence of anemia should alert the physician to the possibility of underlying *polycythemia rubra vera*. In this scenario, the erythrocytosis can be unmasked by iron replacement. Otherwise, I recommend replacement only when the patient begins to experience some symptoms attributable to iron deficiency.

Answered by:
Dr. Kang Howson-Jan

14. Treating Type 2 diabetes

What should I use to treat Type 2 diabetes if the patient has hepatic insufficiency or increased liver function tests? What about patients with renal insufficiency?

Question submitted by:
Dr. Antonio Bianchini
Montreal, Quebec

Metformin and sulphonylureas are contraindicated in the presence of significant liver or renal dysfunction. The TZDs are probably safe in patients with mild renal insufficiency. Their use is also not recommended if the liver enzymes are > 3 fold elevated. The rapid-acting secretagogues, such as repaglinide and nateglinide and the αglucosidase inhibitor, acarbose, are probably safe. Insulin is generally the safest option in patients with significant renal and/or liver dysfunction.

Answered by:
Dr. Hasnain Khandwala

15. Treatment of persistent psoriasis

What is the best option for treating persistent psoriasis of the face?

Question submitted by:
Dr. Alok Sood
Toronto, Ontario

Psoriasis of the face tends to occur more often in children. Ultraviolet light exposure and steroids can improve persistent psoriasis. Despite the fact that steroids can help, the strength and duration of steroid therapy must be limited. The relative contraindictions to steroid use on the face include:

- the induction of perioral dermatitis and rosacea,
- skin thinning and
- an increased intraocular pressures.

Most commonly we see eyelid psoriasis which is a particularly difficult area to treat with steroids.

In the case of eyelid psoriasis, hydrocortisone, 1%, should be the maximum steroid used in as short of a time as possible (*i.e.* ideally a few days). The calcineurin inhibitors tacrolimus and pimecrolimus, also work very well on facial psoriasis and are rapidly becoming the preferred agents for treatment by dermatologists. So far, this is still an off-label practice.

Answered by:
Dr. Scott Murray

16. "Screening" exercise test and IHD

Should asymptomatic patients with known ischemic heart disease have an annual "screening" exercise test?

Question submitted by:
Dr. Alan Jones
Edmonton, Alberta

It is not routine clinical practice to perform periodic screening exercise stress tests on patients with stable clinical course of ischemic heart disease (IHD) (Class IIb recommendation: usefulness or efficacy is less well established by evidence or opinion).[1]

An exercise stress test in this patient group, is often reserved when there is a significant change of clinical status. The maximal exercise stress test may be used to evaluate a patient's fitness level prior to starting an exercise program. If results are normal, the patient can be placed on an exercise program that begins at 75% of the maximum metabolic equivalent (MET) level attained.

Answered by:
Dr. Chi-Ming Chow

References

1. Gibbons RJ: ACC/AHA 2002 guideline update for exercise testing: a report of the American College Cardiology/ American Heart Association Task Force on Practice Guidelines. http://www.acc.org/clinical/guidelines/exercise/exercise_clean.pdf.

17. The protocol for treating warts

What other simple office treatment can non-dermatologists do for resistant warts after LN2 and cantharidine fail to work?

Question submitted by:
Dr. Norman Yee
Calgary, Alberta

Sometimes the most beneficial treatment the experienced clinician can offer is an honest assessment of the likely outcome of agressive therapy. Sometimes reassurance that the majority of verrucae will eventually clear up spontaneously lets the patient consider expectant management. Teaching the patient how to apply caustics (such as 50% salicylic acid in petrollatum) and paring at home can help plantar warts. Painful plantar warts can be curetted (under local anesthesia) and lightly cauterized but recurrance is common and scarring is possible.

Direct excision can be used to eliminate small filiform or hypertrophic lesions in areas where scarring from the procedure would be minimal.

Answered by:
Dr. Scott Murray

18. Blood in baby's stool

A two-month-old breast-fed baby who is otherwise well and growing, has blood in his stool intermittently. The blood appears in small 'flecks' with some mucous both on and mixed through the soft, yellow stool. There is no history of constipation. What do you expect?

Question submitted by:
Dr. C Barker
Vancouver, British Columbia

A baby that is thriving, but has small flecks of blood in his stool, may have a milk protein allergy. In this case, the blood should resolve if the baby is changed to a protein-free milk diet.

In the case of a breast-fed infant, there are two possibilities.

1. The blood is swallowed blood from a small crack in the nipple (this would not be bright red blood).

Alternately, there are some babies who seem to have

2. allergic colitis related to proteins (usually dairy) in the maternal diet.

In this case, reducing maternal intake of dairy products, while ensuring that the mother takes calcium supplementation, will usually resolve this problem.

Answered by:
Dr. Michael Rieder

19. Management of schizophrenia

What should you use in patients with schizophrenia when clozapine fails?

Question submitted by:
Dr. Suzanne Allan
Thunder Bay, Ontario

Assuming that diagnosis, including comorbidity issues, such as substance abuse, anxiety and depressive disorders, and compliance have been carefully addressed, it is important to confirm an adequate dose of clozapine as measured by serum levels (350 ng/ml to 550 ng/ml) and to remember that optimal response to clozapine may take six to 12 months. On a case report basis the combination of clozapine with another antipsychotic has been used, but controlled trials (*i.e.*with risperidone) have proved disappointing. Augmentation strategies with lithium, divalproex, or lamotrigine may be considered.

Other options include electro convulsive therapy (ECT) . Psychosocial interventions may be helpful, combined with pharmacotherapy, particularly in high stress/expressed emotion environments.

Answered by:
Dr. Pierre Chue

20. Pregnancy and yeast infection-what to do?

Should symptomatic vaginal yeast infections be treated during the first trimester of pregnancy? If so, how?

Question submitted by:
Dr. Sakina Raj
Calgary, Alberta

Symptomatic vaginal yeast infections in the first trimester of pregnancy should be treated. Although not demonstrated to be teratogenic, I tend to avoid oral medications, such as fluconazole during the first trimester of pregnancy and prescibe vaginal medications instead. Both clotrimazole or miconazole are acceptable and can be inserted safely into the vagina in the first trimester.

I usually prescribe a week-long course of treatment in pregnancy and most certainly would do so if the infection is recurrent.

Answered by:
Dr. Susan Chamberlain

Getting the facts about macular degeneration

21.

When patients are seen by an optometrist who diagnoses early macular degeneration and starts them on a lutein-containing vitamin, but doesn't refer them to an ophthalmologist, should the family physician still refer the patient?

Question submitted by:
Dr. Micheline Maurice Brossard, Quebec

Yes, these patients should be seen for routine assessment by an ophthalmologist. They should also be given an Amsler grid to self-test macular function.

There is controversy about the use of supplements for macular degeneration. The Age-Related Eye Disease Study (AREDS) concluded that taking their specific formula of vitamin C, vitamin E, beta-carotene, zinc and copper during the six year study period, reduced progression to advanced disease by 25% in those already showing significantly age-related macular disease. However, the AREDS study also confirmed that this preparation did not prevent the development of age-related macular disease in previously normal eyes.

Note that AREDS did not study the effects of lutein, zeaxanthin, and omega-3 long-chain polyunsaturated fatty acids (DHA and EPA). There is currently no suggestion that other agents such as bilberry extract, eyebright, or ginko will be inlcuded in this study.

AREDS supplementation must be used with great caution because of the high levels of beta-carotene (for smokers) and zinc (for those with urinary tract disease). A special formulation without beta-carotene has been made available in the last few years.

Patients with macular disease are desperate to try anything that might prevent the progression of their disease. It is incumbent upon physicians to advise them about the science of these supplements, but not to give them false hope or have them needlessly take expensive (and potentially harmful) preparations. There is no study that conclusively demonstrates any benefit from these supplements in healthy individuals although millions are taking them.

Answered by:
Dr. Malcolm R. Banks

It is incumbent upon us as physicians to advise patients about the science of these supplements, but not to give them false hope.

22. Childhood febrile illness and teething

Is there a direct relationhips between childhood febrile illness and teething?

Question submitted by:
Dr. Mark T Brown
Moose Jaw, Saskatchewan

The question of a relationship between febrile illness and teething has been a subject of discussion and folklore for some time. There is a large Scandinavian study that demonstrates that there may be a low-grade fever associated with teething. Thus, a transient low-grade fever might be attributed to teething, but a high or prolonged fever should not be attributed to teething and an alternate cause should be sought.

Answered by:
Dr. Michael Rieder

23. Managing tonsilloliths

What are the white particulate, foul-smelling deposits occasionally found near the tonsils? What is the foul-smelling pus-like fluid that can be expressed through pressure on the tonsils?

Question submitted by:
Dr. Martin Lee
Halifax, Nova Scotia

These white particulate, foul-smelling deposits are called tonsilloliths. They consist mainly of debris (food, dead bacteria, immune cells and crypt epithelial cells) that accumulate in the crypts, or pockets of the pharyngeal tonsils. They are irritating if they reach large size by obstructing the tonsillar crypts and they may produce a localized inflammation in the area. Some authors believe that they contribute to halitosis.

Although cautery with topical silver nitrate has been recommended in adults, antibiotics are usually ineffective. A tonsillectomy is always successful in curing this problem.

Answered by:
Dr. Ted Tewfik

Banana allergy

24.

A mother describes her child as having an allergy to banana (tongue and lip swelling). Given cross-reactivity, should the child be tested for a latex allergy?

Question submitted by:
Dr. K. Abel
Leduc, Alberta

Children may develop a primary allergy to banana alone, although this is uncommon. More often, an allergy to banana may be due to cross-reactivity with ragweed pollen or signify an allergy to latex or foods in the latex family. Banana share common allergens with avocado, chestnut and kiwi, all of which are members of the latex family.

Latex allergic individuals may acquire allergies to these related foods and the allergies may range from mild to severe. It is important that a child with an allergy to bananas, also be tested for latex and foods in the latex family. Note that sometimes testing with commercially prepared diagnostic banana extract may give a false-negative result. It is important to follow up by cautious skin testing with fresh banana.

Latex is a very potent allergen and has caused anaphylaxis on prick skin testing. Latex skin tests must be done by clinicians experienced in this type of testing.

Bananas are also a member of the ragweed family (along with melons, such as honeydew, cantaloupe and watermelon); therefore, banana-allergic children should also be tested for a ragweed allergy.

An allergy to banana is often mild when it is due to cross-reactivity with ragweed pollen. Patients with seasonal allergic rhinitis to ragweed and associated cross-reactivity with banana, may experience itching of the oropharynx and external ear canal and mild lip swelling. This is known as oral allergy syndrome.

Answered by:
Dr. Peter Vadas

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It is important that a child with an allergy to bananas, also be tested for latex and foods in the latex family.