Answers to your questions from our medical experts

1. Treating Mild Eczema

For mild eczema, with what strength corticosteroid would you start in an adult patient?

Submitted by: Mark Krieger, MD, Toronto, Ontario

I would start with the lowest strength topical corticosteroid that would clear or control the eczema regardless of the age of the patient. This would be done to maintain efficacy but minimize side-effects of topical corticosteroids. For mild eczema, 1% hydrocortisone cream would often be sufficient. Topical calcineurin inhibitors (such as topical pimecrolimus) would also be a consideration for mild eczema in an adult and these topical agents would not have the potential side-effects that can occur with topical corticosteroids.

Answered by: Dr. Richard Haber

2. Describing Incretins

What are incretins? Are they blood sugar or weight controllers?

Submitted by: Steve Coyle, MD, Winnipeg, Manitoba

The incretins are the new kids on the block for treatment of Type 2 diabetes mellitus. There are two classes:

- The dipeptidyl peptidase (DPP)-inhibitors which inhibit an enzyme (DPP-4) which in turn increases the levels of glucagon-like peptide 1 (GLP-1) which is normally produced by the large bowel
- GLP-1 analogues/agonists

In Type 2 diabetes mellitus, the levels are lower than in non-diabetes mellitus. The average A1c reduction is roughly 1.0% but there is a greater reduction if the baseline A1c is higher. They reduce glucose without causing hypoglycemia. Their mechanism of action is very interesting. They increase insulin secretion, suppress glucagon secretion, inhibit gastric emptying, increase satiety and may preserve β-cell function. At present, they are indicated in Type 2 diabetes mellitus as second-line agents. In Canada, only the DPP-4 inhibitors are available (sitagliptin and saxagliptin). The GLP-1 analogues/agonists (exenatide and liraglutide) are not yet on the market in Canada. They are only approved for controlling blood sugar but studies are ongoing for a potential weight loss indication.

Answered by: Dr. Ally Prebtani

3. Panic Attacks and Heart Attacks

Do panic attacks predispose one to heart attacks or vice versa?

Submitted by: Anonymous

Panic attacks can simulate a heart attack and patients with panic attacks can present to the ED with crushing chest discomfort, dyspnea and apprehension. It is less well known that patients who have panic attacks are also more likely to have a heart attack.

The occurrence of at least one full-blown panic attack over a six-month period was associated with an increase in the incidence of coronary heart disease over a five-year follow-up period (hazard ratio 4.2, 95% confidence interval 1.8 to 10) among 3,400 post-menopausal women participating in the Women's Health Initiative observational study.[1] All cause mortality was also increased (hazard ratio 1.75) and there was a trend toward an increased risk for stroke. The risk for coronary heart disease was intermediate for women reporting limited symptom panic episodes. Panic attacks were common and occurred in 10% of post-menopausal women in this study.

On the other hand, MI can also precipitate depression and anxiety and cause panic attacks. So both are true: panic attacks can cause heart attacks and heart attacks can cause panic attacks. Careful evaluation of these patients is essential.

Reference

1. Smoller JW, Pollack MH, Wassertheil-Smoller S, et al: Panic Attacks And Risk Of Incident Cardiovascular Events Among Postmenopausal Women in the Women's Health Initiative Observational Study. Arch Gen Psychiatry 2007; 64(10):1153-60.

Answered by: Dr. Bibiana Cujec

4. Severe Osteoporosis

What is the best treatment for severe osteoporosis?

Submitted by: Charles Talm, MD, Longueuil, Quebec

If a patient continues to experience fractures or significant decreases in bone density despite appropriate treatment for osteoporosis, we would recommend ensuring that all underlying causes of osteoporosis be excluded. For idiopathic non-responders, various combinations of therapies have been tried and many show a benefit with regards to bone density, but evidence of benefit with regards to fracture is lacking. Interestingly, combination of parathyroid hormone (PTH) with a bisphophonate has been found to be antagonistic rather than synergistic, but sequential therapy with PTH and then a bisphosphonate leads to significant improvement in bone density. Some recommend the following: for a patient failing treatment with a bisphosphonate, either estrogen/selective estrogen receptor modulators (SERM) can be added, or the bisphosphonate can be replaced by PTH and then the bisphosphonate is restarted after an 18-month to two-year course of PTH. One must be wary of adynamic bone if two anti-resorptive drugs such as a bisphosphonate with estrogen/SERM are used.

Resource
1. Pinkerton JV, Dalkin AC: Combination Therapy For Treatment Of Osteoporosis: A Review. Am J Obstet Gynecol 2007; 197(6):559-65.

Answered by: Dr. Emil Nashi and Dr. Michael Starr

5. Switching From OCs to the NuvaRing®

Are there any precautions to take when switching from OCs to NuvaRing®?

Submitted by: Diane Giroux, MD, Montreal, Quebec

When switching from a combined OC to the NuvaRing® the patient may insert the ring at any time during the active or inactive (hormone-free) pills, however, the latest day would be the day after the last inactive pill. No precautions are necessary. On the other hand, when switching from a progesterone only pill the NuvaRing® is inserted on any day (as there are no inactive pills) and back-up contraception should be used for seven days.

Reading
1. www.sexualityandu.ca

Answered by: Dr. Victoria Davis

6. Drug Treatment for Bipolar Disorder

What approach would you take to drug treatment for bipolar disorder?

Submitted by: Michael W. Rosenfeld, MD, Vancouver, British Columbia

Bipolar disorders occur in approximately 1% of the population and it is now recognized that they are almost always recurrent and can be associated with severe illness-related morbidity and increased medical mortality. Some 10% to 20% of patients with bipolar disorder die of their illness by suicide. For that reason, proper diagnosis and adequate acute and long-term treatment approaches should be conceptualized.

Careful assessment of a given agent in the individual patient and early revision of treatment if no improvement is shown is often necessary. Consensus is growing that for patients with a first episode of bipolar illness and a positive family history, beginning long-term prophylaxis after the resolution of that first episode, rather than waiting for a second occurrence, should be considered.

Adding a mood stabilizer such as lithium, an atypical antipsychotic or an antiepileptic with mood stabilizing properties such as carbamazepine, valproate, lamotrigine or Topiramate is strongly recommended as prophylaxis to prevent against further episodes of mania and/or depression.

Also, psychoeducational techniques used in conjunction with medication treatment are strongly recommended because they have proven to be effective in substantially improving drug compliance.

Answered by: Dr. Hany Bissada

7. Anticoagulation in the Elderly

What is your opinion about anticoagulation in the elderly?

Submitted by: Gertruda Vorosova, MD, Airdrie, Alberta

The use of anticoagulants such as warfarin in the elderly poses a difficult clinical dilemma. The incidence of conditions requiring chronic anticoagulation therapy, such as atrial fibrillation, mechanical heart valves and venous thromboembolic disease (VTE), increase with age while the risks of hemorrhagic complications secondary to this therapy also increases with age. The reasons for this increased risk are multifactorial and mainly consist of comorbid illness, polypharmacy and drug interactions/non-compliance, difficulty with INR monitoring, cognitive impairment and falls. The decision to use anticoagulants in elderly patients should be based on a careful weighing of risks (bleeding) vs. benefits (prevention of stroke or recurrent VTE). Many models exist for determining indications for anticoagulation and these can be applied against models used to predict the risk of bleeding. For instance, the commonly used CHADS2 score (Congestive heart failure, Hypertension, Age > 75, Diabetes mellitus, previous Stroke) can be used to predict the annual risk of stroke in patients with atrial fibrillation.[1] Then a bleeding risk score, such as the HEMORR2HAGES score (Hepatic or renal disease, Ethanol abuse, Malignancy, Older age > 75, Reduced platelet count or function, Rebleed risk with history of prior bleed, Hypertension, Anemia, Genetic factors, Excessive fall risk, Stroke) can be applied to determine if the risks of anticoagulation therapy outweigh the benefits.[2] In the end though, the decision to anticoagulate an elderly patient needs to be individualized rather than based solely on a predictive model.

References

1. Gage BF, Waterman AD, Shannon W, et al: Validation Of Clinical Classification Schemes For Predicting Stroke: Results From The National Registry Of Atrial Fibrillation. JAMA 2001; 285(22):2864-70.
2. Gage BF, Yan Y, Milligan PE, et al: Clinical Classification Schemes For Predicting Hemorrhage: Results From The National Registry Of Atrial Fibrillation (NRAF). Am Heart J 2006; 151(3):713-9.

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

8. Distinguishing Between Viral and Bacterial Disease

Are there any diagnostic/common tests to distinguish between viral and bacterial disease?

Submitted by: Amar D. Sharma, MD, Oakville, Ontario

Regrettably, despite our advances in medicine, there is no one simple technique to distinguish between a viral and a bacterial illness. In the complete blood count, a lymphocyte predominance may suggest a viral illness, while a neutrophil predominance may suggest a bacterial illness, however, there is significant overlap when considering persons who present with symptoms of encephalitis/meningitis. Those with a viral meningoencephalitis may present with a cerebral spinal fluid (CSF) demonstrating a predominance of neutrophils which after several days becomes lymphocytic in those with viral illnesses. In persons with viral involvement of central the nervous system, the CSF glucose may be normal and the total protein slightly elevated. This is in marked contrast to persons who have a bacterial infection where the neutrophil predominance will persist the CSF glucose will be very low (< 50% serum glucose level) while the protein will be elevated

Answered by: Dr. John Embil

9. Imiquimod for Treating Basal Cell Carcinoma

Is imiquimod an appropriate treatment for basal cell carcinoma?

Submitted by: Scott Campbell, MD, Stratford, Prince Edward Island

Imiquimod is a topical immunomodulator that is a toll-like receptor 7 agonist. It stimulates the release of inflammatory cytokines from antigen presenting cells. It can stimulate a vigorous cell-mediated immune response, resulting in inflammation that can destroy tumour cells. However, this beneficial reaction can be painful and alarming for patients.

Imiquimod is indicated for genital warts, actinic keratoses and biopsy-confirmed, small (< 2 cm) superficial basal cell carcinomas. For other basal cell carcinomas (*e.g.*, nodular, sclerosing), surgical treatment options should be considered.

When treating superficial basal cell carcinomas, imiquimod is applied five times per week for six weeks (in genital warts, it is three times per week for 16 weeks or until resolution). This can be inconvenient for many patients and they may also be distressed by the appearance of severe inflammation. Patients require close follow-up to ensure resolution.

Thus, if the basal cell carcinomas are superficial and if patients are able to understand the nature of the treatment and are prepared for close follow-up, then imiquimod may be an appropriate treatment option. However, if the diagnosis is in doubt, or if it is not responding as expected, do not hesitate in making an urgent referral to a dermatologist.

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

10. Managing Leukopenia

How should a persistent leukopenia in an otherwise healthy person be managed or followed?

Submitted by: S. Krishinamoorthy, MD, Ottawa, Ontario

Leukopenia (an absolute decrease in the total white blood cell count) can be due to either neutropenia (a low polymorphonuclear white cell count) or lymphopenia (a low lymphocyte count). Other white cells such as basophils, eosinophils and monocytes are relatively fewer in the peripheral blood and as such do not lead to leukopenia by themselves. Further, it is important to take into consideration racial and gender differences and whether other cell lines are involved.

A persistent isolated neutropenia can be due to hereditary causes such as severe congenital neutropenia (Kostmann syndrome) or cyclic neutropenia or be due to acquired disorders such as hematologic malignancies, immune dysregulation, or infections. Common acquired causes are medication exposures or can be idiopathic. Chemotherapy and idiosyncratic drug reactions to antibiotics, antithyroid medications, antiplatelet agents and psychotropic drugs may require dose reduction, dose delays, or cessation of the culprit drugs depending on the degree of neutropenia. The use of growth factors such as granulocyte colony-stimulating factor may be required in certain settings. Typically, for patients with chronic immune or non-immune idiopathic neutropenia, the clinical course is benign with no requirement for treatment unless there is recurrent serious infections.

A persistent lymphopenia is usually less concerning than neutropenia. The diagnostic considerations are very similar and include idiopathic, immune mediated, medication related and infection associated causes. Other than determining the underlying causes, there is no specific therapy that is required.

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

11. Essential Hypertension in Pregnancy

What are the current guidelines for the treatment of essential hypertension in pregnancy?

Submitted by: Anonymous

BP consistently > 150/100 mmHg during pregnancy should be treated for prevention of maternal vascular complications. Recommended drugs are labetalol, methyldopa (excellent safety record but sedating effect and only mild reduction in BP) and nifedipine. There is less experience with other calcium channel blockers. ACE inhibitors and ARBs should be avoided because of their teratogenicity. β-blockers can be used but may result in intra-uterine growth retardation. Dx

Answered by: Dr. Bibiana Cujec