Chapter 2
Challenging Current Medical Misconceptions

It is not hard to learn more.
What is hard is to unlearn when you discover yourself wrong.

American Scientist Martin H. Fischer
(1879–1962) [1]

Medicine offers us a treasury of knowledge, and much of it will be validated over time. But tucked in our reference books and hidden in the seldom-revised PowerPoint slides of our professors and continuing medical education (CME) meeting lecturers are some spurious “facts.”

Charles H., a 56 year old computer store manager, came to his local emergency room, complaining of vague chest discomfort present for about 4 h. Based on an absence of prior history of cardiovascular disease, a normal cardiovascular examination and electrocardiogram (ECG), and a failure to report any pain relief following the administration of sublingual nitroglycerin, the patient was discharged to home with a diagnosis of chest wall pain.

He returned 6 h later with a massive myocardial infarction.

In fact, the absence of known prior heart disease and a normal heart exam and ECG in no way rule out the possibility of a coronary occlusion. The worrisome aspect of this case is the apparent reliance on the patient’s response to sublingual nitroglycerine. Over the past few years, several studies have shown that relief of chest pain with nitroglycerine is not a reliable test and does not distinguish between cardiac and non-cardiac chest pain [2–4]. In the study by Steel et al., for example, 260 patients received sublingual nitroglycerine as a diagnostic test for chest pain. They found that nitroglycerin relieved the chest pain in 66% of patients. When used to identify a cardiac origin of chest pain, the diagnostic sensitivity of sublingual nitroglycerine was 72%, and the specificity was 37%. “The positive likelihood ratio for having coronary artery disease if nitroglycerine relieved chest pain was 1.1 (0.96–1.34)” [2]. This is not very good.

Each generation of clinicians builds upon the foundation laid by those who have gone before, but we also often become mired in the murky thinking of our predecessors, reluctant or unable to extricate ourselves. Claudius Galen (129–200 CE), whom Porter calls “the medical colossus of the Roman era,” gave us some
misconceptions that endured for a millennium [5]. Galen’s errors included teachings that the heart has only two chambers, the liver has five lobes, and hollow nerves carry a “vital spirit” from brain to muscle [6]. A little more recently, eighteenth century Boston physicians advised patients with “gripping in the guts” to swallow leaden bullets.

The theory of pernicious pockets of infection around teeth and tonsils causing a host of maladies has been around since the time of Hippocrates. In 1808, American physician-statesman Benjamin Rush advocated removing infected teeth to relieve arthritis. In fact, according to Lambert, writing in 1978 about extracting teeth to improve health, “Almost all physicians between 1910 and 1950 were influenced by the theory, and even now the profession has not entirely escaped its effects, in spite of the fact that modern medical textbooks mention it only to condemn it” [7].

In fact, on a personal note, when I was in medical school ca 1960, I recall one aging community doctor telling how he had greatly helped several arthritis patients by removing all their teeth!

Even more recently, we have used diethylstilbestrol to prevent miscarriage or premature deliveries. We once performed routine episiotomies during childbirth. And we have treated severe hypertension with lumbar sympathectomy, all in the earnest belief that what we were doing was both beneficial and safe. Not too many years ago, the treatment of advanced heart failure routinely included “floating” a Swan–Ganz pulmonary artery catheter [8].

And so we cling tenaciously to some outdated notions, long after they have ceased to be faithful servants. This chapter is about exposing these “plastic pearls.” Each of the facts below challenges a cherished clinical misconception.

References

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Continuous Intrapartum Electronic Fetal Monitoring (EFM) Has Not Been Found to Decrease the Incidence of Fetal Mortality or Cerebral Palsy

EFM is used in 85% of all U.S. deliveries, thus applying what seems reassuring technology to a normal body function – labor and delivery [1]. In fact, continuous EFM brings an increased risk of cesarean delivery and instrument-assisted vaginal births [2, 3]. What it has done is decrease the incidence of neonatal seizures, the only demonstrable benefit [2].

Here is the first of my editorial comments, intended to clarify and sometimes question:

EFM has been part of routine maternity care for the past three decades. It has increased intrapartum anxiety, limited the mobility of laboring mothers, enriched trial lawyers, and led to the presence of unnecessary “C-section” scars on a many an abdominal wall. In the setting of an apparent uncomplicated labor, is it time to discuss the pros and cons of continuous EFM with women, with the realization that the technology is always there if needed at some point in labor?

References


Visual Assessment Is Not Reliable in Screening Newborns for Significant Hyperbilirubinemia Prior to Discharge from the Nursery

We clinicians like to believe that we are keen observers. To examine this belief, Riskin et al. studied 1,129 neonates, comparing their total serum bilirubin levels with visual estimates by neonatologists (n = 5) and nurses (n = 17) [1]. They found significant variations among estimates by observers. They also found problematic visual estimates in 61.5% of the 109 infants with high-risk total serum bilirubin levels.

The implication here is, of course, that underestimation of high-risk bilirubin levels can lead to poor management. Also, the observers in this study were experienced professionals. Consider that, with early discharges from the mother–baby unit, we rely on the visual estimates of inexperienced parents to detect hyperbilirubinemia once the baby goes home.
Reference


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Pallor of the Palmar Creases Is Unreliable in Detecting Anemia

This is one of those treasured, but heretofore unexamined, clinical tips that is passed on in lore and texts. I came across it in an on-line book, *Wisdom of the Ageds: Clinical Pearls*, by Ricer, a monograph I actually like a great deal, that consists of a collection of pearls contributed by a number of his colleagues. In this book, however, we find the statement, contributed by one of the *Ageds*: “If the palmar creases are not red when the hand is opened (check with your own), think anemia” [1].

The usefulness of pallor was addressed by three Portland, Oregon internists who made independent assessments of the conjunctiva, face, nails, palms, and palmar creases in 103 patients. Note the distinction between palms and palmar creases. In these various areas in their various patients, the authors concluded that the absence of pallor cannot be counted on to detect anemia, and specifically that neither the nail beds nor palmar creases are of value in assessing the presence or absence of anemia [2].

*On the plus side, they did find that pallor of the conjunctivae, face, and palms together is helpful in confirming the presence of anemia* [2].

References

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The Levine Sign – Chest Discomfort Described by Placing a Clenched Fist on the Chest – Is Not a Reliable Indicator in Determining the Cause of Chest Pain

In physical examination seminars, students have long been taught to be especially concerned about the chest pain patient who describes the discomfort by placing a clenched fist on the chest. To test the utility of this and other gestures, Marcus et al. conducted a prospective study of 202 patients admitted for chest pain, relating gestures used to troponin levels, functional studies and coronary angiograms.
Of these 202 persons, 11% exhibited the Levine Sign, 35% showed the Palm Sign (placing the palm of the hand on the chest), and 16% used the Arm Sign (touching the left arm).

Four percent showed the Pointing Sign (pointing to the pain site with one finger). None of the sensitivities of the signs exceeded 38%. The Levine Sign and the Arm Sign specificities ranged between 78 and 86%, but their positive predictive values did not exceed 55%. The authors describe these signs as having “poor test characteristics” [1].

One would think that an eponymous physical exam sign – e.g. the Levine Sign – would be bulletproof, but this turns out not to be the case. Actually, the Pointing Sign fared the best of all, with 98% specificity as an indicator of non-ischemic chest discomfort [1].

Reference


Pain Relief Following a GI Cocktail Is Not Limited to Gastrointestinal Disease

Chest pain relieved by a “GI cocktail” (a mixture of viscous lidocaine, liquid antacid and an anticholinergic drug) has traditionally been considered due to gastrointestinal disease, and not myocardial ischemia. I’m sorry to report that some patients with coronary artery disease may report relief after drinking the venerated GI cocktail. Wrenn et al. performed a retrospective review of emergency department patients who had received the GI cocktail, some for abdominal pain and some for chest pain, along with various other drugs. As far as the GI cocktail (and other treatment rendered) was concerned, the authors conclude, “Chest pain patients and abdominal pain patients had a similar frequency of response” [1].

The study, a chart review, was confounded by concomitant administration of narcotics, nitroglycerin, antiemetics, H2-blockers and so forth. Nevertheless, the authors urge that we not put too much faith in the diagnostic value of the response to the GI cocktail.

Reference

Contrary to Lore, Women with Ovarian Cancer Usually Have Symptoms Which May Be Noted Months Before Diagnosis

Cancer of the ovary is often discovered late in the course of disease. The ovaries can be difficult to palpate on physical examination, there is no practical screening test, and we have always considered the disease to be typically silent until it is far along. However, a case–control study of 212 ovarian cancer patients over age 40 revealed 7 symptoms associated with ovarian cancer: abdominal distension, postmenopausal bleeding, loss of appetite, increased urinary frequency, abdominal pain, rectal bleeding, and abdominal bloating. At least one of these seven symptoms was reported to primary care physicians in 85% of ovarian cancer cases but only by 15% of control patients. The authors further report: “After exclusion of symptoms reported in the 180 days before diagnosis, abdominal distension, urinary frequency, and abdominal pain remained independently associated with a diagnosis of ovarian cancer” [1].

The symptom with the highest positive predictive value (PPV) was abdominal distension, with a value of 2.5%, meaning that for every 40 women with this symptom, one will have ovarian cancer [1].

Reference


It Is Safe to Use Opiates to Relieve Abdominal Pain, Even if the Diagnosis Is in Doubt

Many of us have been told that administering narcotics to a patient with acute abdominal pain may make it difficult to determine the diagnosis. In fact, a prospective, randomized, placebo controlled study of 100 consecutive patients with significant abdominal pain who received opiate analgesia or saline indicates that pain relief not only may not interfere with diagnosis, but that the reduction in severity of physical signs may facilitate diagnosis [1].

The Attard et al. study has been confirmed by a more recent Cochrane Review that concludes: “The review provides some evidence to support the notion that the use of opioid analgesic in patients with acute abdominal pain is helpful in terms of patient comfort and does not retard decisions to treat” [2].

In another study, LoVecchio et al. conducted a randomized, prospective, placebo-controlled trial in which 5 or 10 mg of morphine or placebo were given to 48 patients with abdominal pain. They found statistically significant changes in physical examination findings in both analgesic groups, but not in the placebo group. They go on to note that the changes in physical findings attributed to analgesics did not result in any delay in diagnosis or adverse events [3].
Lactic Acidosis May Not Be a Special Risk Associated with Metformin Use

References


It Seems Safe for Patients with Diverticular Disease to Eat Nuts, Corn and Popcorn, After All

It has long been suggested that persons with diverticular disease should not consume corn, popcorn, nuts and seeds, for fear that some kernel will lodge in a diverticulum, causing inflammation and/or bleeding. In a study of 47,228 adult men enrolled in the Health Professional Follow-up Study from 1986 to 2004, researchers compared food-frequency questionnaires to the incidence of diverticulitis and diverticular bleeding. They found no link between eating corn and diverticulitis, and no association between nut, corn, or popcorn consumption and diverticular bleeding. Most interesting of all to me, the found an inverse relationship between nut and popcorn consumption and the risk of diverticulitis.

Could it be, then, that eating nuts and popcorn might actually benefit patients with diverticular disease? At least, is it really safe to change our longstanding advice to avoid foods with residual kernels? With diverticulosis present in approximately one third of Americans age 60 and over, the answers to these questions have widespread clinical relevance.

Reference


Lactic Acidosis May Not Be a Special Risk Associated with Metformin Use, After All

Metformin is a favored oral hypoglycemic medication, and has other helpful attributes as well, several of which are covered in chapters that follow. There has, however, been a cloud over its use – the “well-known” risk of developing lactic acidosis.
Because of this risk metformin has sometimes not been prescribed for patients with cardiovascular or pulmonary disease that might cause hypoxemia, or renal disease that might result in metabolic abnormalities. This concern may change following the report by Salpeter et al., who reviewed pooled data from 347 clinical trials involving metformin and other antidiabetic oral medications. In all, 125,941 subjects were involved. They calculated that the upper limit for the true incidence of lactic acidosis was 4.3 cases per 100,000 years of metformin use, compared with 5.4 cases in patients using other drugs. They conclude: “There is no evidence from prospective comparative trials or from observational cohort studies that metformin is associated with an increased risk of lactic acidosis, or with increased levels of lactate, compared to other anti-hyperglycemic treatments” [1].

For as long as I can recall, metformin use has been considered a little risky, especially in older patients or those with cardiopulmonary or renal disease. Who among us wanted to be responsible for causing potentially fatal lactic acidosis, even though none of us seemed able to recall a case? The Cochrane Review cited puts the risk of metformin-induced lactic acidosis as more equivalent to the risk with non-metformin therapies, shedding needed light on what has been a misleading bit of clinical lore.

Reference


Night Pain in Back Pain Patients Might Not Really Be an Ominous Symptom

Night pain, we have been told, is especially worrisome – a red flag. To examine this theory, Harding et al. studied 482 consecutive patients attending a back pain triage clinic. Of these, 213 had night pain, with 90 having pain each night. Among all these night pain patients, no serious pathology was found, leading the authors to challenge the specificity of night pain an indicator of serious disease when the presenting complaint is back pain [1].

This study prompted me to wonder: Might the non-specificity of night pain as an indicator of severe pathology in back pain patients extend to other pain syndromes? I search PubMed in vain for studies of night pain in migraine, chest pain, abdominal pain, and pelvic pain. There are clearly some researchable questions here.

Reference

The Prehn Sign Is Not Dependable in Differentiating Between Epididymitis and Testicular Torsion

The Prehn sign describes the maneuver of elevating the contents of a painful scrotum. If the pain is relieved by the maneuver, the diagnosis is likely to be epididymitis; if there is no pain relief, think of testicular torsion as the cause.

Here is what we know about the acutely painful scrotum in boys, adolescents and young men. The most common cause is acute epididymitis. Testicular torsion, a surgical emergency, occurs much less frequently [1]. The diagnosis is suspected clinically and can be confirmed on Doppler study (88% accuracy) or, if the Doppler scan is indeterminate or negative in the face of a worrisome clinical picture, radio-nuclide scanning (95% accuracy) [2]. What cannot be counted on to make the diagnosis is the Prehn sign, which can often be falsely positive or negative [1, 3].

The take-home message is this: In young men and boys, the diagnosis of epididymitis should be made with great caution. Although epididymitis is the more likely cause of an acute scrotum, testicular torsion is one of the must-never-miss diagnoses.

References


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Monofilament Testing Is Not Reliable in the Diagnosis of Peripheral Neuropathy

In a review of previously published studies describing the use of monofilament testing to diagnose peripheral neuropathy, Dros et al. found the method to have sensitivity ranging from 41 to 93% and specificity from 68 to 100%. They concluded: “Despite the frequent use of monofilament testing, little can be said about the test accuracy for detecting neuropathy in feet without visible ulcers” [1].

Up to half of patients with diabetes mellitus will develop peripheral neuropathy as a complication, and up to half of these persons will lack symptoms. For this reason, an inexpensive and safe diagnostic maneuver to detect the complication is useful. We clinicians have embraced monofilament testing, which is much more elegant that the safety pin – once worn on the lapel of a white coat, and rarely if ever sterilized.

Happily, we not have a better test for detecting peripheral neuropathy, the tuning fork, discussed in Chap. 6.
Reference


###

**Bed Rest Is No Longer the Preferred Treatment for Acute Low Back Strain**

A systematic review by Waddell et al. compared the two schools of thought in managing acute low back pain. They identified ten trials of bed rest and eight trials in which patients were advised to remain active. All trials were in a primary care setting. They found that patients advised to continue usual activities, when compared to bed rest patients, reported a faster return to work, fewer recurrent problems, and less chronic disability [1].

In my early practice years, the 1960s, we admitted acute low back strain patients to the hospital, where they were treated for days with Buck’s extension traction. This consisted of taping the lower legs so that, with the patient supine, traction could be applied using a pulley attached to the bed footboard and a cord containing a weight. Named for U.S. surgeon Gordon Buck (1807–1877), the method, to my way of thinking was chiefly a means to enforce bed rest, since it always seemed improbable that the 5 pounds of traction on each leg actually had much effect on the spinal muscles and vertebrae. The way for the patient to escape the contraption and go home was, of course, to report improvement in the back pain.

Reference


###

**Spinal Manipulation Is Not Useful in the Treatment of Infant Colic**

The domains of chiropractic and allopathy seldom intersect, and so perhaps you did not know that chiropractic manipulation is sometimes recommended for infants with colic. Ernst found three randomized clinical trials studying this method, finding as follows: “The totality of this evidence fails to demonstrate the effectiveness of this treatment” [1].
The method was found unhelpful as therapy for infant colic. But there is another side to the coin. What about the risk of harm? Are there any short- or long-term adverse effects of this intervention?

Reference


It Is Generally Safe to Use Prescription Medications for a Year or Two Following Their Expiration Date

This advice comes from a study done for the U.S. Department of Defense (DoD) by the Food and Drug Administration for 20 years. The purpose of the study to see if money could be saved by extending the shelf life of DoD drugs. Researchers looked at the stability of 122 different drug products. They found: “Based on testing and stability assessment, 88% of the lots were extended for at least 1 year beyond their original expiration date for an average extension of 66 months, but the additional stability period was highly variable” [1].

Medication potency seems to persist past the expiration date. But what about safety of the drug? Might an outdated drug cause some adverse effects? According to The Medical Letter, there are no published reports of toxicity of current drug formulations attributed to use after their expiration date. The historical asterisk here is the incidence of renal tubular damage caused by use of degraded tetracycline in a formula no longer manufactured [2].

I offer a few caveats here. First of all, I suspect that the DoD keeps its drugs in a much better environment – think temperature and humidity control – than most bathroom medicine cabinets. Secondly, an exception to the above expiration date advice is liquid antibiotics, generally prepared when your local pharmacist adds water to a powder, and intended to be fully used or discarded. Finally, if I were taking a drug that is truly vital to my health, and for which dosing is critical, I would pay strict attention to expiration dates.

References

Selected Cephalosporins Can Be Used in Patients with a History of Penicillin Allergy

A widely circulated misconception has been the tale that there is a 10% cross-allergy risk between penicillin and all cephalosporins. Not so, according to a recent literature review. It seems that while some cephalosporins – cephalothin, cephalexin, cefadroxil, and cefazolin – have a significant risk of cross-allergy with penicillin, others do not. The safer drugs to use in a setting of a history of penicillin allergy are: cefprozil, cefuroxime, cefpodoxime, ceftazidime, and ceftriaxone [1].

Given that there are legions of patients that carry the label “penicillin-allergic,” however valid or erroneous this designation might be, knowing that certain cephalosporins can be used in these patients will be helpful in daily practice.

Reference


The Use of Intravenous Drugs Such as Epinephrine in the Setting of Out-of-Hospital Cardiac Arrest Does Not Improve the Odds of Survival to Hospital Discharge

In a study conducted in Norway, researchers randomized 851 adults, mean age 64 years, with non-traumatic out-of-hospital cardiac arrest to receive Advanced Cardiac Life Support Guideline based care with and without access to intravenous (IV) drug access. The use of IV drug access improved adjusted survival to the intensive care unit, but did not differ from no-IV-access in regard to survival to hospital discharge, 1-year survival duration or survival with favorable neurologic outcomes [1].

An earlier study from Sweden examined 10,966 instances of out-of-hospital cardiac arrest and whether or not the patients received epinephrine or were intubated. The researchers found: “Neither in total nor in any subgroup did we find results indicating beneficial effects of any of these two interventions” [2].

I am not sure that, in a specific instance of cardiac arrest, there is compelling evidence that IV access and use of epinephrine would be inadvisable, even allowing for the possibility of undesirable epinephrine side effects, such as tachycardia, decreased renal blood flow, and increased myocardial irritability [3]. What the Scandinavian studies do for me, however, is give permission not to use IV pressor agents in instances of out-of-hospital cardiac arrest in which my clinical judgment is that such intervention might be a bad idea.
Patients with Mild or Moderate Depression May Experience Little or No Benefit from the Use of Antidepressant Medication

The default therapy of depression has always been antidepressant medication. If a lower dose brings no relief, we increase the dose. When one drug does not work we try another. In this setting, Fournier et al. wondered about the pharmacologic effect of antidepressant medication relative to pill placebo for patients with less severe depression.

In an analysis of six studies involving 718 patients, researchers found that in the treatment of depression, the response to medication versus placebo differed substantially as a function of baseline severity. That is, the worse the depression, the more useful the antidepressant medication when compared to placebo. Those with less than severe depression often experienced little or no benefit from antidepressant medication compared to placebo [1].

Ghaemi even suggests: “A revival of the concept of neurotic depression would make it possible to identify patients with mild-to-moderate, chronic or episodic dysthymia and anxiety who are unlikely to benefit greatly from antidepressants” [2].

Depression is the common cold of mental illness. We see the disease, whether mild, moderate or severe, in daily practice. After reading this study, I will change my thinking about medication use in depression a little. Perhaps instead of aiming to conquer mild to moderate depression with antidepressants, I will focus a little more on counseling and on relieving symptoms such as sleep disturbances. In patients with mild to moderate depression, I will be less likely to recommend increasing doses of medication when lower doses don’t seem to work.

References


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**Oral Dexamethasone Is Not Helpful in the Treatment of Acute Bronchiolitis in Children**

In many settings, corticosteroids are used to treat acute bronchiolitis, a leading cause of morbidity and hospitalization in children. It seems to make sense, after all, that an antiinflammatory medication would reduce airway inflammation in these children. To examine this belief, Cornell et al. conducted a double-blind, randomized trial involving 600 children in 20 emergency departments. These children, experiencing bronchiolitis with wheezing, were treated with a single dose of oral dexamethasone versus placebo. The author of the study reported no significant difference in the rates of hospital admission, the respiratory status after 4 h, and later clinical outcomes [1].

This clinical trial is consistent with the conclusions of a metaanalysis, reported in 2004, involving 1,198 children enrolled in 13 trials. When the outcomes of using systemic glucocorticoids versus placebo in acute viral bronchiolitis were compared, there were no benefits in length of stay or clinical scores [2].

> This is not to say that systemic glucocorticoids might not be beneficial if the child with bronchiolitis also has chronic lung disease or asthma.

**References**


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**Short Courses of Steroids Used to Treat Asthma Need Not Be Tapered, and Can Be Simply Stopped**

Clinical tradition has long held that when short courses of steroids are used to treat asthma, the drug must eventually be withdrawn by tapering. Several studies have shown this not to be true. Here are two of them:

Clinicians in the United Kingdom studied 35 patients admitted to hospital for asthma, treated with 40 mg of enteric-coated prednisone daily for 10 days, followed by a gradual prednisone taper or by a placebo-tablet taper. There was no significant change in mean peak expiratory flow rate in either group during the 7 days of active or placebo tapering or during the following 10 days [1].

A study conducted in Cleveland, Ohio compared acute asthma patients receiving an 8-day course prednisone (40 mg/day) versus others receiving an 8-day tapered dose of prednisone. The researchers found that the two groups did not differ in the
FEV1 percent predicted, the incidence of relapse, or the incidence of adrenal suppression [2].

Based on these studies and others that I found while reviewing this topic, it seems that we no longer need to taper off our doses when treating acute asthma with short-term prednisone. As a practicing physician, I can state that this simplifies my life a little, as well as the lives of my patients. On a practical basis, writing a prescription for a tapering dose of a drug is always a slight challenge. And then the patient must keep track of drug doses that change each day. Now I wonder if the no-taper-needed method applies to other instances of short-term steroid use, such as severe cases of poison ivy dermatitis.

References


Guillain–Barré Syndrome (GBS) Is More Likely to Be Caused by Influenza than by an Influenza Vaccine

Influenza is a more likely antecedent to GBS than influenza vaccination if for no other reason than there are many more instances of influenza infection [1]. Too be sure, GBS is a rare complication of both, and the link with the viral infection is especially difficult to quantify. In this regard, following a study of 405 patients with GBS, Sivadon-Tardy et al. concluded: “Influenza viruses are infrequent triggering agents of GBS but may play a significant role during major influenza epidemics” [1].

It is easier to measure the risks with influenza vaccine. Juurlink et al. describe influenza vaccination as “associated with a small but significantly increased risk for hospitalization for GBS” [2]. Following a study of patients with GBS during the 1992–1993 and 1993–1994 influenza/influenza vaccine seasons, Lasky et al. calculate that influenza carries an “adjusted relative risk of 1.7, [which] suggests slightly more than one additional case of GBS per million persons vaccinated against influenza” [3].

GBS attained some notoriety when the disease afflicted popular actor Andy Griffith in 1983. Also, some medical historians have suggested that the cause of the paralysis suffered by Franklin Delano Roosevelt was not polio, but GBS. The disease came to be associated with influenza vaccine during the swine flu epidemic of 1976. Clinicians should keep in mind that GBS can follow a number of infectious diseases. According to Hahn, the most common antecedent pathogen is Campylobacter jejuni, a frequent cause of gastroenteritis [4].
Exposure to Cold May Have Something to Do with Upper Respiratory Infections, After All

Any scientifically grounded physician is likely to state that being exposed to a cold environment – breathing cold air, being “chilled,” and so forth – cannot cause a cold. But there is the pesky increase in colds and related respiratory infections that occurs during the winter months. In 2002, Eccles, at the Common Cold Centre in Cardiff, Wales, affirmed, “Present scientific opinion dismisses a cause-and-effect relationship between acute cooling of the body surface and common cold.” However, he goes on to propose a hypothesis: “that acute cooling of the body surface causes reflex vasoconstriction in the nose and upper airways, and that this vasoconstrictor response may inhibit respiratory defense and cause the onset of clinical cold symptoms by converting an asymptomatic subclinical viral infection into a symptomatic clinical infection” [1]. Interesting theory.

Then in 2005, Johnson and Eccles, still at the Common Cold Center, studied cold symptoms in patients subjected to acute cooling of the feet. They found, “Acute chilling of the feet causes the onset of common cold symptoms in around 10% of subjects who are chilled” [2].

The latest paper I can find on the topic is by Mourtzoukou and Falagas, in Greece who, following a review of available data, conclude: “Although not all studies agree, most of the available evidence from laboratory and clinical studies suggests that inhaled cold air, cooling of the body surface and cold stress induced by lowering the core body temperature cause pathophysiological responses such as vasoconstriction in the respiratory tract mucosa and suppression of immune responses, which are responsible for increased susceptibility to infections” [3].

First of all: Yes, there really is a Common Cold Centre at the Cardiff School of Biosciences, Cardiff University. Furthermore, their findings seem to validate my mother’s cold weather advice to dress warmly and keep my feet dry.

On a related note, while searching for items that relate to the common cold, I came across a study by Cohen et al., describing the relationship between sleep efficiency and duration and the development of common cold symptoms in 153 healthy adult volunteers. Their conclusion was: “Poorer sleep efficiency and shorter sleep duration in the weeks preceding exposure to a rhinovirus were associated with lower resistance to illness” [4].
Ginkgo biloba Does Not Prevent Cognitive Decline in Older Adults

The Ginkgo Evaluation of Memory (GEM) study was a randomized, double-blind, placebo controlled trial involving 3,069 community-dwelling persons age 72 and older who took 120 mg of G. biloba twice daily or placebo. Participants were followed for a mean of 6.1 years with various tests of neuropsychological function. In the end, compared with placebo, G. biloba in the doses used “did not result in less cognitive decline in older adults with normal cognition or with mild cognitive impairment” [1].

Somehow, however, I suspect that we will continue to see advertised claims that G. biloba can prevent the cognitive decline of aging and Alzheimer disease.

Reference


Antipyretic Agents Do Not Prevent Recurrences of Febrile Seizures

Parents and physicians alike have long endeavored to see that any child with a history of febrile seizures receives an antipyretic medication at the first sniffle, with the intent of preventing a subsequent seizure episode. From Finland comes a study of 231 children who suffered their first febrile seizure. Following acute care, subsequent treatment was with oral ibuprofen, acetaminophen or placebo. The investigators found no significant differences in the recurrence of febrile seizures among the three groups. The temperature was higher in instances of seizure than in those without seizure, and “this phenomenon was independent of the medication given.”

References

The conclusion of the authors was: “Antipyretic agents are ineffective for the prevention of recurrences of febrile seizures and for the lowering of body temperature in patients with a febrile episode that leads to a recurrent febrile seizure” [1].

For me, this study prompts a paradigmatic shift in thinking. As a family physician I am keenly aware that a febrile seizure, especially a first episode, is terrifying to parents, and worrisome to the physician. I recall being called to the homes of frightened parents in the middle of the night. In those settings, after the seizure had run its course, standard therapy was to attack the fever with antipyretics. Now we have a study challenging the utility of antipyretics in preventing recurrences of febrile seizures. But what else do we have? And so thinking may change, but what about practice? I suspect that, in spite of this study, parents and physician will still advocate antipyretics when the child with a history of febrile seizures develops an elevated body temperature, simply because we lack a truly useful method of seizure prevention.

Also, in this study, which focused on preventing febrile seizure recurrence, did you notice that our favorite antipyretics used in children – ibuprofen and acetaminophen – did not seem effective in lowering body temperature?

Reference


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Supplementary Use of Vitamins C and E Does Not Offer Protection Against Heart Disease

The Physicians’ Heart Study, active from 1997 to 2007, was a randomized, double-blind, placebo controlled trial of vitamins C and E in regard to major cardiovascular events – nonfatal myocardial infarction, nonfatal stroke, and death due to cardiovascular disease. The subjects were 14,641 male physicians age 50 years and older. At the end of the trial, the investigators concluded that, compared to placebo, neither vitamin had any significant effect on the incidence of cardiovascular events [1].

Will this serve as the definitive study regarding this controversial issue? Perhaps so, at least as far as men are concerned.

Reference


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We Do Not Need to Drink Eight Glasses of Water a Day

Common belief holds that we adults should drink eight 8-ounce glasses of water a day (sometimes termed “8 × 8”). Vreeman and Carroll suggest that this misguided notion may have originated with a 1945 recommendation that adults need 2.5 L of water a day. They go on to relate, “An ordinary standard for diverse persons is 1 milliliter for each calorie of food. Most of this quantity is contained in prepared foods.” The authors then point out that if the second sentence is ignored and the water content of foods not counted, then one could see how the 8 × 8 instruction could gain traction [1].

Valtin, writing in 2002, holds that rigorous proof for the advice to drink eight 8-ounce glasses of water daily is lacking. He goes on to point out that in some instances – heavy exercise in a hot climate – eight or more 8-ounce glasses of water may be needed daily [2].

Clinicians should keep in mind the rare, but possible, outcomes of heroic water consumption: hyponatremia, water intoxication, or exacerbation of heart failure.

References


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Low Dose Vitamin K Does Not Reduce Bleeding in Warfarin Patients with Elevated International Normalized Ratios (INRs)

In a study conducted in 14 anticoagulant clinics, overanticoagulated patients with international normalized ratio values of 4.5 and higher were treated with 1.25 mg of oral vitamin K (n = 347) or placebo (n = 365). Actively bleeding patients were excluded. The conclusion: “Low-dose oral vitamin K did not reduce bleeding in warfarin recipients with INRs of 4.5 to 10.0” [1].

A sidebar to this study is as follows: The day after taking vitamin K or placebo, the former group experienced a 2.8 drop in INR while the latter group had a decrease of 1.4. This means that low-dose vitamin K actually dropped the INR but – and this is a big “but” – did not result in reduced actual bleeding events [1].

Reference


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Vitamin B12 Need Not Be Given by Injection

Our classic medical textbooks have assured us that vitamin B12 replacement requires the use of intramuscular (IM) injections, owing to impaired absorption in patients with an intrinsic factor deficiency. A study of 38 newly diagnosed cobalamin deficient patients assigned to receive cyanocobalamin intramuscularly or orally has shown that, at least in the short term, oral administration of high doses of vitamin B12 can provide satisfactory replacement, and in fact may be superior to IM administration [1].

In fact, vitamin B12 is not the only medication previously given chiefly by injection that can safely be administered orally, as I describe next.

Reference


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Oral Antibiotics Are the Best Outpatient Treatment for Pneumonia

This is the recommendation of the American Thoracic Society and the Infectious Diseases Society of America [1]. Also, a careful literature review by Shatsky also finds no superiority of parenteral therapy over oral therapy for acute sinusitis or for severe urinary tract infections [2].

Getting a “shot” was once considered by many to be the gold standard of therapy, perhaps harking to the early days of penicillin in the 1940s. In fact, at one time, oral penicillin was more expensive than injectable, explaining why, as cruel as is sounds, when I was an intern in a U.S. Public Health Service Hospital in 1961, children with confirmed streptococcal pharyngitis were brought to the hospital daily for 10 days for penicillin injections. This cost-cutting practice was by USPHS/government fiat, a sobering recollection as we anticipate increased federal control over medical care in America.

References


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Childhood Vaccines Do Not Cause Autism

In 1984, Wakefield et al. published a paper, relating a study of 12 children ages 3–10 referred to a pediatric gastroenterology clinic with a history of normal development followed by loss of acquired skills, including language, together with diarrhea and abdominal pain. In eight of the 12 children the onset of behavioral manifestations followed vaccination against measles, mumps, and rubella [1]. The study did not include a control population.

Then, in 2010, in a stunning development, Lancet, which had published the 1984 paper, retracted the paper, stating: “In particular, the claims in the original paper that the children were ‘consecutively referred’ and that the investigations were ‘approved’ by the local ethics committee have been proven to be false” [2].

The Wall Street Journal Health Blog tells a little more of the story. It seems that blood was taken from children at a birthday party, and the families each received a small cash payment. Also, Wakefield received a large research grant from attorneys representing parents of affected children, but did not disclose this funding as a possible conflict of interest [3].

The Lancet retraction comes just 6 months after the “Age of Autism – the Daily Web Newspaper of the Autism Epidemic” honored Dr. Wakefield as the first recipient of its Galileo Award [4]. If the renowned Italian astronomer and mathematician were alive today, I wonder how he would feel about this eponymous recognition.

I present this fact – that childhood vaccines do not cause autism – because, thanks to activist groups and publications such as the one mentioned here, the vaccine-autism myth is likely to persist for a long time to come.

References


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To Prevent Medical Errors, Pass Board Examinations
and Provide Informed Patient Care
Taylor, R.B.
2011, XLVIII, 324 p., Softcover
ISBN: 978-1-4419-7873-8