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HIGHLIGHTS AUGUST 2002

8-1 COMPARISON OF AGREEMENT BETWEEN DIFFERENT MEASURES OF BLOOD PRESSURE IN PRIMARY CARE AND DAYTIME AMBULATORY BLOOD PRESSURE.

The white coat effect is important in diagnosing and assessing control of hypertension. If ambulatory machine measurement is not available, repeated measurement by nurses or by patients themselves will result in fewer patients receiving unnecessary treatment or change in treatment.

"It is time to stop using high blood pressure readings documented by general practitioners to make treatment decisions."

8-2 OBESITY AND THE RISK OF HEART FAILURE

Elevated BMI was associated with an increased risk of HF without evidence of a threshold

Increased BMI was independently associated with an increased risk of HF. Given the high rates of obesity in the USA, strategies to promote optimal body weight may reduce the population burden of HF.

8-3 OBESITY AND HEART FAILURE – RISK FACTOR OR MECHANISM?

Overweight and obesity are associated with increased rates of hypertension, coronary heart disease, left ventricular hypertrophy, diabetes, and the "metabolic syndrome". All of these are important causes of HF. Nonetheless, BMI emerged as a significant *independent* and graded predictor of HF and remained so when other factors were analyzed together with BMI.

The editorialist suggests some drug treatment preferences for obese patients: renin-angiotensin inhibitors, metformin, statins, and aspirin.

8-4 U.S CENTERS FOR DISEASE CONTROL AND PREVENTION GUIDELINES FOR THE TREATMENT OF SEXUALLY TRANSMITTED DISEASES: 2002 Guidelines

Primary care clinicians may wish to file and consult this article to obtain the latest information. A table of selected recommendations for treatment of STDs appears on page 257. The authors include several new guidelines.

8-5 EFFECT OF HOMOCYSTEINE-LOWERING THERAPY WITH FOLIC ACID, VITAMIN B12, AND VITAMIN B6 ON CLINICAL OUTCOME AFTER PERCUTANEOUS CORONARY INTERVENTION.

Homocysteine-lowering therapy with folic acid, vitamin B12, and vitamin B6 significantly reduced incidence of major adverse events after percutaneous coronary intervention. This strengthens the evidence linking the beneficial effects of folic acid, B12, and B6 in lowering homocysteine and the risk of atherosclerotic disease.

8-6 A PRIMARY CARE HOME FOR AMERICANS

"It is clear that primary care in the United States is *not* designed to deliver the accessible, comprehensive, longitudinal and coordinated care required by a 21st century health care system."

"It is time for primary care to get its house in order. New ideas are needed"

Suggestions for improvement are made. Economic factors constrain application.

8-7 WITHHOLDING ANTIBIOTIC TREATMENT IN PNEUMONIA PATIENTS WITH DEMENTIA

In the Netherlands, antibiotic treatment is commonly withheld in severely demented nursing home patients with pneumonia. Especially if they are very frail.

8-8 HERPES ZOSTER: Clinical Review

Treatment of pain in the *acute* phase: Pain can be very severe and should not be underestimated. Sympathetic blockade can provide rapid, temporary relief. Scheduled short-acting narcotics should be prescribed. For acute pain which persists, long-acting controlled release opioids (oral or transdermal) are preferred. Early attenuation of the pain may prevent initiation of central mechanisms of chronic pain, thereby reducing severity of post-herpetic neuralgia.

Prevention of post-herpetic neuralgia: Antiviral therapy does not reliably prevent it. Hypothetically, combining antivirals with analgesics, tricyclic antidepressants, or anticonvulsants at onset of HZ could reduce the risk.

Suggestions for treatment of post-herpetic neuralgia.

8-9 EFFICACY OF HANDRUBBING WITH ALCOHOL BASED SOLUTION VERSUS STANDARD HANDWASHING WITH ANTISEPTIC SOAP

The rapid efficacy of alcohol solutions and their availability at the bedside make them an ideal substitute for conventional handwashing. Compliance is increased.

8-10 HAND-RUBBING WITH AN AQUEOUS ALCOHOL SCRUBBING SOLUTION VS SURGICAL HAND-SCRUBBING AND 30-DAY SURGICAL SITE INFECTION RATES

Hand-rubbing with aqueous alcohol solution before surgical procedures was as effective as the traditional hand-scrubbing.

It was better tolerated and improved compliance..

“Hand rubbing with liquid aqueous alcoholic solutions can thus be safely used as an alternative to traditional hand-scrubbing.”

8-11 EMERGENCY CONTRACEPTION

A review article. The public and patients should be educated about the difference between emergency contraception and abortion. Hormonal emergency contraception can substantially reduce the burden of unintended pregnancies. It does not interrupt a pregnancy. It prevents a pregnancy from starting.

8-12 NEW STRAINS OF BACTERIA AND EXACERBATIONS OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Isolation of new strains of bacteria are associated with acute exacerbations. This strengthens the use of antibiotics to treat exacerbations.

8-13 ORAL VITAMIN K LOWERS THE INTERNATIONAL NORMALIZED RATIO MORE READILY THAN SC VITAMIN K IN THE TREATMENT OF WARFARIN-ASSOCIATED COAGULOPATHY.

In asymptomatic patients with supra-therapeutic INR values (4.5 to 10) while receiving warfarin, 1 mg oral vitamin K lowered INR more rapidly to a therapeutic level than subcutaneous K.

The day after administration of oral K, the INRs remained within therapeutic range in many patients, allowing reinstitution of warfarin therapy.

8-14 LOCAL TREATMENTS FOR CUTANEOUS WARTS

Compared with other topicals, salicylic acid has a more favorable therapeutic effect

8-15 EFFECTIVE PAIN TREATMENT PROMOTES ACTIVITIES

“Pain is whatever the patient says it is, and exists whenever the patients says it does.”

“The patient’s self-report is the single most reliable indicator of pain and its intensity.”

Physical dependence and tolerance are expected responses to prolonged treatment. Some patients show reluctance about using pain medication, fearing addiction or uncontrollable adverse effects. Some think use of medication will hide other aspects of the disease, or that they should reserve medications until the pain is unbearable. Patient education aimed at these concerns is integral to therapy.

When prescribing opioids, individualized dosage is the key. There is no way to know in advance what a patient will require. Medication should be taken around the clock, rather than as needed.

Tricyclic antidepressants raise levels of serotonin and norepinephrine, particularly at the level of the spinal cord, thereby shutting off nocioceptive signals from the periphery. Nortriptyline (*generic*) and desipramine (*Norpramin*; *generic*) are preferred because they have fewer adverse effects.

"Physicians can promote use of cognitive-behavioral techniques by educating patients about mind/body interactions and reassuring them that the pain is real and that psychologic therapies complement other medical care."

Multidisciplinary pain treatment centers don't see pain cessation as their primary goal. Instead, they seek to help people return to normal activities and improve quality of life.

The article pertains mainly to pain-specialists. Primary care clinicians may help their patients with chronic pain to understand the approaches to treatment.

8-16 LOCAL WARMING AND INSERTION OF PERIPHERAL VENOUS CANNULAS.

Local warming of the hand facilitated the insertion of cannulas, reducing both the time and number of attempts required. This application may help primary care clinicians more easily start routine i.v. fluids in patients with difficult veins.

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"Overzealous Treatment For White Coat Hypertension Represents An Enormous Cost"

8-1 COMPARISON OF AGREEMENT BETWEEN DIFFERENT MEASURES OF BLOOD PRESSURE IN PRIMARY CARE AND DAYTIME AMBULATORY BLOOD PRESSURE.

"Ambulatory blood pressure may be a much better predictor of target organ damage and subsequent adverse events than measurements made in a clinic."

Why is ambulatory monitoring by automated machine not commonly used to make management decisions? One problem is that clinic-derived thresholds have been used in previous research to make treatment decisions. However, several lines of evidence show that patients with daytime ambulatory BP lower than 135/85 have a low risk of subsequent events. This level represents good control and corresponds approximately to a clinic pressure of 140/90.

This study assessed alternatives to measuring BP which best predict response to treatment and adverse outcomes. It asks – Is the "white coat" phenomenon important in diagnosing and assessing control of BP? What is the agreement between ambulatory BP measurement and realistic alternatives? (measurement by doctor, by nurse, self measurement in clinic or at home).

Conclusion; The "white coat" effect is important in diagnosing and assessing control of BP. Home measurement, repeated measurements by a nurse or by the patient should result in fewer patients being treated for "hypertension" and fewer changes in treatment. Measurements by doctors were misleading.

STUDY

1. General practices in England followed over 200 patients with newly diagnosed high or borderline hypertension, and patients with poor control while receiving treatment. Management changes were being considered in all.
2. Determined BP as recorded by a variety of methods:
   1) readings by MDs, 2) readings recorded on the chart in recent clinic visits, 3) by nurses,
   4) home measurement, and 5) self-measurement in the clinic.
3. These were compared with daytime ambulatory monitoring with an expensive automated machine.[1]
4. Main outcome = overall agreement with ambulatory BP.

RESULTS

1. Determinations of systolic BP by doctors and recent clinic readings were much higher than systolic BP measured by ambulatory BP machine (difference = 19 mmHg). The difference from ambulatory monitoring increased as BP increased. Doctor-measured and recent BPs recorded in the clinic were not specific in predicting treatment thresholds.
2. Higher readings were also recorded by nurses (+4 to +8 mmHg), by self-measurement in the clinic (+10), and home measurement (+ 5). (Compared with daytime ambulatory machine measurements.)
3. The white coat effect was attenuated with repeat visits to nurses – from + 11 mmHg in the first visit to + 3 in follow-ups.

DISCUSSION

1. Exact BP management thresholds will always be debated. Nevertheless, agreement exists that poor control in routine clinic readings for most patients is > 140/90. Ambulatory BP < 135/85 represents good control. Those with additional risk factors (*eg, diabetes*) may need tighter control.
2. The differences between measurements are likely due to different alerting responses.
3. The estimates of the white coat effect in this study are similar to those in previous work. It is not an artifact of research studies. It applies equally to new diagnosis and assessment of control.
4. Patients with white coat hypertension are at considerably reduced risk compared with those with higher ambulatory pressures.[2]
5. Overzealous initiation and maintenance of treatment for white coat hypertension represents an enormous cost for professionals and for patients, in addition to the associated iatrogenesis – particularly unnecessary anxiety and side effects of drugs.
6. Repeated readings by a nurse in primary care provides better assessment than readings by doctors.
7. Patients can accurately measure their pressure at home with the potential advantages of lower costs compared with ambulatory measurement. Self measurement in the clinic may provide similar levels of agreement, but more visits to the clinic are required, and suitable rooms must be made available.

CONCLUSION

The white coat effect is important in diagnosing and assessing control of hypertension in primary care. If ambulatory measurement by automated machine is not available, repeated measurement by a nurse or by the patient will result in fewer patients receiving unnecessary treatment or change in treatment.

"It is time to stop using high blood pressure readings documented by general practitioners to make treatment decisions."

BMJ August 3, 2002; 325: 254-57 Original investigation, first author Paul Little, Southampton University, Southampton, UK **www.bmj.com/cgi/content/full/325/7358/254**

Comment

1 For a description of machines used see www.bmj.com/cgi/content/full/325/7358/254

A self-inflating battery operated machine can be purchased for about $75. Be careful to get the correct size cuff. Problems are calibration and accuracy.

2 I do not believe that white coat hypertension is innocuous. These patients may be more likely to develop sustained hypertension later. They should be followed more closely than patients presenting with an entirely normal BP. Lifestyle improvements are essential in these patients. Some studies have advocated treating them with drugs to prevent complications such as left ventricular hypertrophy. RTJ

Both an Independent and Dependent Risk Factor

8-2 OBESITY AND THE RISK OF HEART FAILURE

Past studies have reported that obesity is consistently associated with left ventricular hypertrophy and dilation – known precursors of heart failure (**HF**). Extreme obesity is recognized to be a risk factor for HF. It is not clear whether overweight and lesser degrees of obesity also pose a risk.

This study investigated the relation between the body-mass index (**BMI** -- weight in kg/ height in meters$^{2)}$, and the incidence of HF.

Conclusion: Increasing BMI was associated with an increasing risk of HF.

STUDY

1. Framingham Heart Study followed over 5800 participants (mean age = 55).
2. Evaluated BMI both as a continuous variable and as a categorical variable
   (BMI = 18.5 to 25.9; 25.0 to 29.9; and obese 30.0 or more).
3. Criteria for diagnosis of HF:
   A. Major criteria:
      Paroxysmal nocturnal dyspnea or orthopnea; jugular vein distention; pulmonary rales; radiographic cardiomegaly; acute pulmonary edema; a third heart sound; central venous pressure above 16 cm of water; hepatojugular reflux, and weight loss of 10 pounds or more in response to treatment for HF.

B. Minor criteria:

Bilateral ankle edema; nocturnal cough; dyspnea on ordinary exertion; hepatomegaly; pleural effusion; and a heart rate of at least 120. These were acceptable only if they could not be attributed to any other medical condition.

C. Diagnosis required simultaneous presence of at least two major criteria, or one major criterion and two minor criteria.

4. Primary outcome = first episode of HF. Follow-up a mean of 14 years.

RESULTS

1. HF developed in 496 subjects. (8%)
2. A graded increase in risk was observed across categories of BMI. After adjustment for established risk factors, there was an increase in the risk of HF in about 6% for each increment in BMI (18.5 to 25.9; 25.0 to 29.9; >30.0). Hazard ratios per increase in category of BMI were 1.5 in women and 1.4 in men.
3. Obese subjects (BMI 30 or above) had a doubling of the risk.

DISCUSSION

1. Elevated BMI was associated with an increased risk of HF without evidence of a threshold. The increase was evident in both sexes and was not limited to persons with extreme obesity.
2. There was evidence of a continuous gradient of HF risk with increasing BMI.
3. The strength of the association, the stepwise increase in risk, the demonstration of a temporal sequence (obesity preceded HF), and the consistency of results in multiple analyses suggest a causal relationship.
4. Plausible mechanism: Increased BMI is a risk for hypertension, diabetes, and dyslipidemia, all of which augment risk of myocardial infarction, an important antecedent of HF. Hypertension and diabetes independently increase risk.
5. Elevated BMI is associated with altered left ventricular remodeling, possible owing to increased hemodynamic load, neurohormonal activation, and increased oxidative stress.
6. The authors calculate that about 11% to 14% of cases of HF in the community are attributable to *obesity alone*.
7. "Our findings suggest that obesity is an important risk factor for heart failure."

CONCLUSION

Increasing BMI was independently associated with an increasing risk of HF. Given the high rates of obesity in the USA, strategies to promote optimal body weight may reduce the population burden of HF.

NEJM August 1, 2002; 347: 305-13 Original investigation, first author Satish Kenchaiah, Framingham Heart Study, Framingham Mass. **www.nejm.org**

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Both Risk Factor and Mechanism

8-3 OBESITY AND HEART FAILURE – RISK FACTOR OR MECHANISM?

(*This editorial comments and expands on the previous article.)*

Is obesity an *independent* risk factor for HF or coronary heart disease?

The previous article concluded that the increase in the risk of HF is at least partially *independent* of other risk factors associated with excessive body weight.

Obesity is frequently associated with many signs and symptoms of HF, including orthopnea, cardiomegaly, edema, dyspnea on exertion, and weight loss in response to treatment. This makes it difficult to diagnose HF in obese patients.

The most intriguing question raised by the study is – how does an increase in BMI lead to HF?

Overweight and obesity are associated with increased rates of hypertension, coronary heart disease, left ventricular hypertrophy, and diabetes. All of these are important causes of HF. Nonetheless, BMI emerged as a significant independent predictor of HF and remained so when other factors were analyzed together with BMI.

Severe obesity has long been recognized as causing a form of cardiomyopathy, characterized by chronic volume overload, left ventricular hypertrophy, and left ventricular dilatation. Obesity-related hypoventilation and sleep apnea may also contribute. But, given the continuous relation between BMI and risk of HF and the clear increase in risk with mild-to-moderate obesity, it is unlikely that these syndromes are primary causes of HF.

Overweight and obese persons without diabetes, particularly those with abdominal obesity, often have a cluster of clinical and metabolic findings termed “the metabolic syndrome”. It is characterized by insulin resistance and an atherogenic dyslipidemia (high LDL-cholesterol, high triglycerides, elevated very-low density lipoprotein cholesterol, and a low HDL-cholesterol). It is also associated with elevated C-reactive protein, a propensity to thrombosis, and activation of the sympathetic nervous system. The metabolic syndrome has emerged as a major risk factor for cardiovascular events. It was probably a precursor of HF in the study.

Prevention and treatment of obesity should reduce the risk of HF. The success of lifestyle modifications in preventing diabetes in a generally obese, prediabetic population provides some hope of success.

The editorialist suggests some treatment preferences for obese patients:

A. Renin-angiotensin inhibitors should be the preferred agents for treatment hypertension because they have proved effective in causing regression of left ventricular hypertrophy, preventing development of diabetes, preventing HF, and reducing mortality and vascular morbidity among high-risk patients with hypertension and vascular disease.

B. Metformin should be the preferred hypoglycemic agent in overweight persons with type 2 diabetes. (*It does not lead to an increase in weight, as other agents do. It may reduce weight. RTJ*)

C. Antiplatelet drugs and drugs for dyslipidemia may prevent coronary heart disease.

NEJM August 1, 2002; 347: 358-59 Editorial by Barry M Massie, Veterans Administration Medical Center, San Francisco, CA **www.nejm.org**

A Review Article to File and Consult

8-4 U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION GUIDELINES FOR THE TREATMENT OF SEXUALLY TRANSMITTED DISEASES: An Opportunity To Unify Clinical And Public Health Practice": 2002 Guidelines

Primary care clinicians may wish to file and consult this article to obtain the latest information. A table of selected recommendations for treatment of STDs appears on page 257. The authors include several new guidelines:

1) Re-evaluation of chlamydial infections to be done at 3 to 4 months because of the high rate of re-infection. Routine screening for clamydia is recommended for all sexually active women over age 25. Selective screening and treatment has been shown to greatly reduce incidence of pelvic inflammatory disease. Treatment with a single dose of azithromycin is effective.
2) Emergence of quinolone-resistant gonorrhea and implications for treatment. Several single-dose regimens are effective treatment. Concomitant empiric treatment for clamydia is still recommended because of the frequency of this co-infection.
3) Alternative treatment regimens for early syphilis and neurosyphilis in persons allergic to penicillin.
4) Commercial availability of type-specific tests for genital herpes.
5) Screening and treatment for bacterial vaginosis.
6) Nucleic acid testing for human papilloma virus in women with atypical squamous cells of undetermined significance on Pap smears. HPV plays a central role in the pathogenesis of squamous cell cancer of the cervix, vagina, vulva, and penis. Although no specific treatment is available, results may guide the need for colposcopic evaluation.

Annals Int Med August 20, 2002; 137: 255-262 Review article, first author Kimberly A Workowski, Centers for Disease Control and Prevention, Atlanta, GA **www.annals.org**

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Continuing the Homocysteine Story. Evidence of Benefits of Folic Acid, B12, and B6

8-5 EFFECT OF HOMOCYSTEINE-LOWERING THERAPY WITH FOLIC ACID, VITAMIN B12, AND VITAMIN B6 ON CLINICAL OUTCOME AFTER PERCUTANEOUS CORONARY INTERVENTION.

Restenosis after PCI is an important limitation of the procedure. Epidemiological evidence suggests that total plasma homocysteine is an important cardiovascular risk factor. It correlates with severity of coronary artery disease, predicts mortality in patients with established coronary atherosclerosis, and may have a potential role with regard to outcome after coronary interventions.

Homocysteine may have adverse effects on vascular smooth muscle, endothelial function, lipoproteins, and the coagulation cascade. Higher homocysteine levels may increase restenosis after PCI.

This study evaluated the effect of homocysteine-lowering therapy on clinical outcome after PCI.

Conclusion: Homocysteine-lowering therapy with folic acid, B12, and B6 significantly decreased incidence of major adverse events after PCI.

STUDY

1. Randomized, double-blind, placebo-controlled trial entered over 550 patients (mean age = 62).
   All had undergone a successful angioplasty of at least one significant coronary stenosis.
2. Randomized to: 1) combined folic acid (1 mg), cyanocobalamin (B12; 400 ug/d), and
   pyridoxine (B6; 10 mg daily), or 2) placebo.
3. Composite endpoint = death, non-fatal myocardial infarction, and need for revascularization.
4. Active therapy was discontinued after 6 months. Observation continued for a year.

RESULTS

1. Baseline homocysteine levels correlated with age.
2. Mean homocysteine levels were significantly lowered at 6 months in the treatment
   group: placebo group = 1.36 mg/L; treatment group = 1.01 mg/L.
3. At one year, the composite endpoint was significantly lower in patients receiving the
   active treatment (15% vs 23%; absolute difference = 8%; NNT(benefit 1 patient over 1 year) = 12). This was
   despite discontinuation of homocysteine-lowering therapy at 6 months.
4.. Efficacy was primarily due to a reduced rate of target revascularization. A non-significant
   trend was seen toward fewer deaths, and non-fatal MI.

DISCUSSION

1. “This study provides strong evidence that homocysteine-lowering therapy . . . improves
   outcome after percutaneous coronary intervention by reducing need for repeat revascularization and
   decreasing the overall incidence of major adverse events one year after successful PCI.”
2. The results are consistent with those of recent randomized trials with homocysteine-lowering
   therapy showing decreased coronary events among healthy patients, halting the progression of carotid
   plaques, and improving arterial endothelial function.
3. The therapy is inexpensive and has minimal adverse effects. (*The benefit/harm-cost ratio is high.)*
4. Increasing evidence suggests that the primary mechanism may be a decrease in
   oxidative endothelium injury.

CONCLUSION

Homocysteine-lowering therapy with folic acid, vitamin B12, and vitamin B6 significantly reduced incidence of major adverse events after percutaneous coronary intervention.

JAMA August 28, 2002; 288: 973-79. Original investigation, first author Guido Schnyder, University of California, San Diego **www.jama.com**

Comment:

Practical Pointers has abstracted several articles on this fascinating subject. This article presents more evidence suggesting benefits from therapy which reduces homocysteine levels. It is especially important since the benefit/harm-cost ratio may be very high. Primary care clinicians may inform patients of the possible benefits in primary and secondary prevention. Their patients may wish to consider taking supplemental folic acid, B12 and B6 daily in addition to their usual one-a-day. The amounts of the 3 vitamins used in the study were larger than contained in supplemental one-a-days. RTJ

Lots of Problems – Few answers at Present

8-6 A PRIMARY CARE HOME FOR AMERICANS

Most people in the US want a "medical home". Primary care (**PC**), through which physicians address a majority of patients' health care needs over a long time span, was developed as a medical home. Almost all patients value having a primary care physician (**PCP**) who knows about all their medical problems. Most prefer to seek initial care for common problems from their PCP rather than a specialist.

The primary care home has several essential functions: 1) it offers first-contact care, the door patients can knock on to initiate getting help; 2) it is comprehensive, encompassing a spectrum of preventive, acute and chronic health care needs; 3) it provides longitudinal care with sustained relationships, a place where people know you; 4) it is a base from which other accommodations – specialists and other care givers—are arranged.

Abundant evidence indicates the benefits of patients having a primary care home. But, primary care in the USA is showing increasing signs of strain because of heightened expectations and shifting demographic and health trends. Effectively responding to these problems will require fundamental redesign of systems for delivering care. Most PCPs are stressed. Almost all are overwhelmed with crammed schedules, inefficient work environments, and unrewarding administrative tasks. PCPs often complain they cannot spend enough time with patients. Patients complain that they are less able to visit their PCP when they need care, often waiting days for an appointment.

PCPs provide about 80% of visits for common conditions such as diabetes and hypertension. Improvement in quality of care for these conditions must involve improvement in primary care.

The traditional medical culture of the US exalts and financially rewards specialization. Fewer physicians-to-be are entering primary care. Administrative hassles, challenges to clinical autonomy, and income reductions by managed care are souring some physicians on the practice of PC. The managed care gatekeeper role has caused patients to be apprehensive about rationing of specialty care and financial conflicts of interest by PCPs. Advances

in medical care, changing disease patterns, greater demand for clinical accountability, and evolving professional norms are creating heightened expectations for performance in PC.

"It is clear that primary care in the United States is *not* designed to deliver the accessible, comprehensive, longitudinal and coordinated care required by a 21st century health care system."

"It is time for primary care to get its house in order. New ideas are needed"

Putting the Primary Care House in Order: (The editorialists comment:)

1) PCPs need a new environment in which to work, a climate less permeated with stress and overwork.
2) This new environment must be intertwined with systems of care that improve access and quality while they relieve physician's workload.
3) These changes must take place without major increases in total health care costs. This requires an extensive redistribution of health care dollars from institutional care to a redesigned primary care home.

JAMA August 21, 2002; 288: 889-91 "Innovation in Primary Care", commentary, first author Kevin Grumbach, University of California, Sam Francisco. **www.jama.com**

Comment:

The authors pose problems which are well known to primary care clinicians. The solutions remain elusive.

We recognize that primary care is failing in many respects for many reasons. The primary care MD needs help – a larger staff to share more of the burdens and responsibilities.

I believe primary care might gradually evolve from the "primary care doctor" to the "primary care team". This change is ongoing now. Nurse practitioners joined the team years ago. More non-MD clinicians will join the team and provide better care than the solo MD can provide. I can think of a number of services non-MD team members can provide and be responsible for:

1) *Education of patients*: We recognize that primary care is woefully inadequate in educating patients about important measures to improve and preserve their health. This pertains particularly to lifestyles. The practice could enroll patients in classes which provide instruction and information much more efficiently than can be done on a one-on-one basis. This would also include periodic discussions about patients' future planning for end-of-life care, and their desires for interventions for serious, life-threatening illness. Families of patients must be included.

2) *Follow-up*: Care of patients with chronic diseases. This would include a large segment of primary care patients – those with diabetes, hypertension, and lipid disorders. They require more time than the solo MD can provide. Non-MD professionals would also be responsible for immediately reporting results of tests and consultations to patients, thus removing a great source of patients' irritation, anxiety and concern. It would also require efforts to contact laboratory, X-ray, pathology departments, and consultants to obtain the results of tests on a timely basis.

They would assume another important responsibility –follow-up of acute care patients by telephone to determine progress. Patients greatly appreciate this expression of concern.

Another responsibility would be to check all drugs the patient is taking, including over-the-counter. Patients would be asked to "brown bag" their drugs (bring all they are taking to each office visit). This would help to

gauge compliance and determine any incompatibilities. They also would provide information about the most economical use of drugs by suggesting generics and use of a pill cutter.

3) Screening: Determining need and timing of screening procedures. (Eg, mammography, BP checks, lipid checks, colonoscopy.) Screening non-MD personnel could efficiently apply some procedures in the office. Other patients could be referred on a timely basis.

4) Urgent care: One member of the team could be assigned to set time apart each day to accept patients who request urgent care. This would include telephone consultations and triage.

5) Immunizations: one professional could be responsible for determining need.

Administration would require a competent and dedicated staff. This staff would receive and attempt to arbitrate patient-complaints

A large and daunting role would remain for the MD members of the team: being responsible for getting to know each patient personally based on the "patient oriented" model; acting as a ready consultant when the need arises; being responsible for continuing education for themselves and the staff; determining need for hospitalization or out-of-office consultations, and developing a close personal relationship with pharmacists, hospitalists, other specialists, and the public health system.

This is a very tall order. It would also require expert planning and time for development. A team would require 10 to 12 well-trained individuals in addition to several MDs. The practice would include sufficient staff to allow time for a semblance of family life, vacations, and sabbaticals. I suspect many of these aspects of primary care are now being incorporated in some settings. RTJ

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"Antibiotics are Frequently Withheld"

8-7 WITHHOLDING ANTIBIOTIC TREATMENT IN PNEUMONIA PATIENTS WITH DEMENTIA

Pneumonia is common and life-threatening in elderly patients with end-stage dementia. A previous study in extended care facilities in the USA reported that about four in ten patients with respiratory infections living in extended care facilities were intentionally *not* treated with antibiotics.

With progressive dementia, patients become incompetent to make decisions. They are not able to balance the benefits and burdens of treatment. Physicians and families then face choices about whether to withhold treatments aimed at extending life when the patient is expected to die soon, or when treatment may be considered too burdensome. Treatment aimed at cure may be considered too burdensome and benefits too small if life expectancy is considered short and aggressive procedures would be required. For example, if restraints are required to prevent removal of an intravenous line by the patient.

Good practice involves consultation with families to reconstruct the patient's wishes if their present wish is not known, and to determine what is in the patient's best interest if no wish can be reconstructed.

This Netherlands' study examines the factors associated with decision making in these circumstances.

Conclusion: Antibiotic treatment was commonly withheld.

STUDY

1. Observational cohort study identified over 700 patients with pneumonia who lived in Dutch psychogeriatric nursing homes. Almost all had dementia and were to stay in the home for the rest of their lives.
2. Physicians were explicitly instructed to include terminal patients in the study.
3. Patients were assigned to treatment or no-treatment solely on the basis of the decision of the physician.[1]
4. Patients were followed for up to 3 months.

RESULTS

1. In about one out of four patients, antibiotics were withheld. The other patients received antibiotics with palliative (8%) or curative (69%) intent. (Most received amoxicillin by mouth.) Fewer than 1% were admitted to a hospital. [2]
2. Patients for whom treatment was withheld had more severe dementia (most with mini-mental exam score = 0), had more severe pneumonia, had lower food and fluid intake, had more history of aspiration, and were more often dehydrated. The strongest association with the decision to withhold was the clinical judgment of the severity of illness at the time of the decision.
3. Considerable variation in decisions occurred when considering how rapidly the patient was aging, on whether the patient had aspirated, and whether there was a past history of pneumonia.
4. Opiates were instituted more often in those for whom antibiotics were withheld. [3]
5. Ninety percent of the antibiotic-withheld group died within 1 month (median time = 6 days); 27% of the patients for whom antibiotics were aimed at cure died despite the treatment.

DISCUSSION

1. Antibiotics were withheld in about 25% of seriously ill, frail, demented patients.
2. Physicians thought antibiotics could save the lives of about 1/3 of these patients. Almost 2/3 were expected to die despite antibiotics.
3. Some physicians were inclined to treat patients who had survived pneumonia before. Others were inclined to withhold if the patient had recurrent pneumonia. Similarly, physicians and families differed in their approach if the patients aspirated, and if they were relatively young.
4. The authors comment that variation might be expected to be greater in the USA, where there is less legal and ethical clarity about initiating a strictly palliative approach. Although sometimes antibiotics were given for palliative reasons, evidence of benefit of palliative effects is lacking.
5. The occurrence of pneumonia may have been used as an opportunity to let the patient die a natural death. (“The old man’s friend”)

6. Advanced care planning was common in the nursing homes studied. Re-consultation with families is recommended in the acute situation.

CONCLUSION

In the Netherlands, antibiotic treatment is commonly withheld in severely demented nursing home patients with pneumonia. Especially if they are very frail.

Archives Int Med August 12/26, 2002; 162: 1753-60 Original investigation, first author Jenny T van der Steen, University Medical Center, the Netherlands. **www.archinternmed.com**

Comment:

1 This statement suggests that Dutch physicians act with more authority and paternalism than USA doctors. I do not know if this is the case.

2 To admit, or not admit is an important decision which should be made beforehand. The nursing staff of the institution must be willing to provide dedicated terminal care.

3 Palliative terminal is an essential responsibility of the MD and all staff members. I believe most individuals in the USA are leaning toward a strictly palliative approach when end of life approaches, and away from attempts at "cure" and life-extending therapy.

Seeking concurrent decisions between the patient and family members about end-of-life treatment is a grave responsibility of primary care clinicians. It may be difficult, but should be determined for all elderly patients. Certainly patients should express their wishes while still competent. Since some may subsequently change their minds, clinicians and family members should from time to time ask the elderly to restate their preferences. If the patient, although seriously ill, remains mentally competent, the decision is easy.

When a mentally incompetent patient is seriously or terminally ill, physicians and family must rely on previous statements by the patient. Lacking that, the decision is made depending on the "best interest" of the patient. This, too, should be decided beforehand by concurrence with the family. The key word is "beforehand".

Note: the authors made no mention of "futility" of treatment.

Another important question – should these patients receive flu shots? RTJ

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Control Of Acute Pain May Lessen Post-Herpetic Neuralgia.

8-8 HERPES ZOSTER: Clinical Review

(*Review articles are excellent memory joggers. They present important points I may have forgotten as well as some points I never knew. RTJ*)

The lifetime risk of herpes zoster (**HZ**) is estimated to be 10 to 20 percent.

Before the days of anti-viral drugs, cutaneous dissemination of varicella-zoster virus was reported in up to 25% of immunocompromised patients. Disseminated disease includes pneumonia, encephalitis, and hepatitis. Acute retinal necrosis occurs occasionally in immunocompetent persons. Visual changes begin weeks or months

after the resolution of HZ. The retinal infection is probably acquired hematogenously. It can often be arrested by antiviral therapy.

Three "cyclovir" drugs [acyclovir (*Zovirax*), valacyclovir (*Valtrex*), and famcyclovir (*Famvir*)] are available for treatment of the acute phase of HZ. They shorten the duration of viral shedding, halt the formation of new lesions, and reduce severity of acute pain, and accelerate healing. They also lead to a shortening of duration of PHN pain. Because of superior pharmacokinetic profiles and simpler dosing regimens, valacyclovir and famcyclovir are preferred. All three drugs are exceptionally safe and well tolerated. The earlier they are started, the better the clinical response.

Herpes zoster ophthalmicus (involvement of the trigeminal nerve) leads to ocular complications (keratitis, episcleritis, iritis) in up to 50% of patients. Antiviral therapy reduces the frequency of complications. Patients should be evaluated by an ophthalmologist experienced in management of corneal diseases.

What about corticosteroids? Combined with cyclovir drugs, they may lead to a moderate acceleration of rate of healing and alleviation of acute pain. They do *not* alleviate post-herpetic neuralgic pain. Use alone is not recommended.

Treatment of pain in the *acute* phase: Pain can be very severe and should not be underestimated. Sympathetic blockade can provide rapid, temporary relief. Scheduled short-acting narcotics should be prescribed. For acute pain which persists, long-acting controlled release opioids (oral or transdermal) are preferred. Early attenuation of the pain may prevent initiation of central mechanisms of chronic pain, thereby reducing severity of post-herpetic neuralgia.

Treatment of *post-herpetic neuralgia*: Post-herpetic neuralgia (**PHN**) is a disease of older age. Patients over age 50 have an ever increasing prevalence of PHN pain. Each one-year increment in age is associated with about a 10% increase in PHN pain at 60 days. Opioids, tricyclic antidepressants, and gabapentin reduce severity and duration. Topical application of lidocaine patches or capsaicin cream can provide some relief. In intractable pain, intrathecal injections of methylprednisolone may reduce pain.

(*See table 2 p 344 for a list of treatment options*.)

Prevention of *post-herpetic neuralgia*: Antiviral therapy does not reliably prevent it. Hypothetically, combining antivirals with analgesics, tricyclic antidepressants, or anticonvulsants at onset of HZ could reduce the risk. These approaches have not been proved to be effective.

NEJM August 1, 2002; 347: "Clinical Practice", review article, first author John W Gnann, University of Alabama, Birmingham. **www.nejm.org**

Comment:

Primary care clinicians are responsible for first response to patients with HZ. Early treatment can be helpful.

I recall one study which reported use of the antidepressant amitriptyline (*Elavil*) at onset of HZ symptoms. It alleviated post-herpetic neuralgia. I would prescribe an antidepressant on first encounter with the patient. Nortriptyline (*generic*) and desipramine (*Norpramin*; *generic*) may have fewer adverse effects. RTJ

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An Ideal Substitute for Conventional Handwashing

8-9 EFFICACY OF HANDRUBBING WITH ALCOHOL BASED SOLUTION VERSUS STANDARD HANDWASHING WITH ANTISEPTIC SOAP

This study compare efficacy of handwashing with an alcohol-based solution *vs* conventional handwashing with antiseptic soap.

Handwashing has been the most important measure used to reduce cross contamination of micro-organisms and to prevent nosocomial infections. However, in routine hospital practice, compliance is unacceptably low. Providing accessible sinks and educating heath care workers does not improve compliance. Risk of cross infection remains high.

Handrubbing with an alcohol-based, waterless hand antiseptic may be a better method of increasing compliance.

The study randomized 12 healthcare workers to handrubbing with alcohol, and 11 to handwashing with antiseptic soap when hand hygiene was indicated before and after patient care. The medicated soap contained chlorhexidine. The alcohol rub contained propanol. The median duration of hand hygiene was 30 seconds in each group. (30 seconds is the required time for anti-bacterial activity from alcohol handrubbing.) A longer time may be required for hand washing, but is seldom performed.

Imprints of fingertips and palms were taken on culture media to record bacterial contamination by colony count.

Results: With alcohol handrubbing the median percentage reduction in bacterial contamination was 83% vs 58% in the handwashing group.

The authors conclude that the rapid efficacy of alcohol solutions and their immediate availability at the bedside is an ideal substitute for conventional handwashing. Compliance should be increased.

BMJ August 17, 2002; 325: 362-65 Original investigation, first author Emmanuelle Girou, Hopital Henri Mondor, Paris, France. **www.bmj.com....7560**

Comment:

This method of preventing cross contamination between patients is being applied more frequently. Primary care clinicians should adopt the alcohol method both in the office and clinic. RTJ

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A Second Study Reporting Advantages of Alcohol Solution

8-10 HAND-RUBBING WITH AN AQUEOUS ALCOHOL SCRUBBING SOLUTION VS SURGICAL HAND-SCRUBBING AND 30-DAY SURGICAL SITE INFECTION RATES

Surgical site infections are among the leading nosocomial causes of morbidity and a source of excess medical costs. Effective hand antisepsis remains crucial. Surgical gloves contribute to preventing surgical wound

contamination, but some are permeable to bacteria, and all can be damaged during use. Bacteria can be shed from surgeons' hands despite standard antisepsis.

In France, 2 protocols are recommended for surgical hand preparation: 1) 5 minutes of hand scrubbing with antiseptic soap (eg, povidone iodine), and 2) one minute hand wash with a non-antiseptic soap and tap water followed by 5 minutes of hand rubbing with a liquid aqueous alcohol (75%) solution. (**AS**)

This study compared hand-scrubbing with a hand-rubbing protocol.

Conclusion: Hand-rubbing with AS, preceded by a 1-minute non-antiseptic hand wash before surgery was as effective as traditional hand-scrubbing in preventing surgical site infections.

STUDY

1. Followed over 4300 consecutive patients undergoing clean and clean-contaminated surgery.
2. Used the 2 methods of hand cleaning alternately every other day.
3. Measured 30 day surgical site infection rates.
4. Follow-up to 14 months.

RESULTS

1. The 2 protocols were comparable in regard to surgical site infections. (2.44% vs 2.48%)
2. Compliance with the recommended duration of hand antisepsis was better in the hand-rubbing with AS. (44% vs 28%)
3. There was less skin dryness and less skin irritation with the AS protocol.

DISCUSSION

1. In the routine surgical setting, hand rubbing with AS was equivalent to the traditional method of hand-scrubbing. It improved compliance with hand antisepsis protocol.
2. Some previous studies have shown that AS reduces nosocomial infection rates and improves compliance with hand hygiene when implemented throughout a hospital, particularly at the bedside in medical wards. Some studies, however, were less favorable.
3. For presurgery antisepsis, the critical end point for compliance is how well and how long it is performed (at least 30 s). Better compliance with the AS protocol was noted throughout 14 months.

CONCLUSION

Hand-rubbing with aqueous alcohol solution, preceded by a 1-minute nonantiseptic hand wash before surgical procedures, was as effective as the traditional hand-scrubbing.

It was better tolerated and improved compliance..

"Hand rubbing with liquid aqueous alcoholic solutions can thus be safely used as an alternative to traditional hand-scrubbing."

JAMA August 14, 2002; 288: 722-27 Original investigation, first author Jean Jacques Parienti, Cote de Macre University Hospital, Centre, Caen, France **www.jama.com**

Comment:

For primary care clinicians the message is clear. Use hand antisepsis between patients. Hand washing simply does not work. Primary care clinicians will not take the time and endure the inconvenience of repeated hand washing. Having an alcohol-based hand solution convenient to the bedside will be acceptable. It can be used while the bedside conversation is beginning.

Note that compliance with AS rubbing was still not satisfactory (44%).

"The Public and Patients Should be Educated about the Difference"

8-11 EMERGENCY CONTRACEPTION

Hormonal emergency contraception (**EC**) can substantially reduce the burden of unintended pregnancies by preventing pregnancy after a coital act not adequately protected by a regular method of birth control. It is underused in the USA. Many women are still not familiar with EC. This may be due in part because drug manufacturers do not extensively advertise it. Access is often limited. Some pharmacy chains refuse to carry the products. Many insurance companies do not cover the cost. These policies may indirectly increase the number of unintended pregnancies and abortions.

EC does not interrupt an established pregnancy. It prevents a pregnancy from starting.

The most commonly used approaches consist of two oral doses of contraceptive steroids: 1) levonorgestrel only regimen (levonorgestrel 0.75 mg two doses 12 hours apart), and 2) the older Yuzpe regimen (ethinyl estradiol 100 ug and levonorgestrel 0.5 mg repeated at 12 hours). Nausea and vomiting is more common in the Yuzpe regimen. Progestin-alone prevents about 85% of pregnancies that would have occurred without its use.

EC has no known medical contraindications. It is not indicated for suspected or confirmed pregnancy. However, if EC is taken inadvertently early in a pregnancy, neither the woman nor the fetus will be harmed.

A strong medical and legal case exists for making EC available over the counter, as has happened in countries other than the USA. "Easier access to, and wider use of, EC could dramatically lower the high rates of unintended pregnancy and induced abortion."

Two products have recently become available in the USA dedicated to EC:

1) "Plan B" tablets contain 0.75 mg of levonorgestrel. (No estrogen)

2) "Preven" contains both levonorgestrel and ethinyl estradiol.

(The levonorgestrel regimen is more effective in preventing pregnancy.)

Birth control preparations can be used for EC:

3) "Ovrette" is available on prescription. It contains 75 ug of racemic (dl) progestogen. It is labeled for continuous administration for birth control..

4) A number of other birth-control pills are available. All contain ethinyl estradiol + levonorgestrel. (eg, *Ovral; Nordette*). Dose is usually 2 to 4 tablets 12 hours apart.

Neither Ovrette nor birth control pills are labeled as indicated for EC.

(See table 2 for a list of regimens for which a prescription can be written.)

A copper intrauterine device inserted within 5 days appears to be the most effective EC.

How does EC work? How does it differ from early medical abortion?

EC prevents a pregnancy from starting. This differs fundamentally from interruption of an early established pregnancy. The public and patients should be educated about the difference. EC and medical abortion are often confused, since both are used after intercourse. Six to 7 days elapse between a coital act and establishment of a pregnancy (defined as implantation). EC acts in this interval to prevent pregnancy. No EC preparation can interrupt an established pregnancy. If a pregnancy is established, EC will no longer be effective.

EC has been termed "the morning after pill". This is an unfortunate label since use within 72 hours or more after coitus will prevent most pregnancies. Effectiveness, however, wanes with time. Use EC as soon as possible.

EC is very safe – much safer than aspirin. No contraindications exist. No medical supervision is necessary for its use. Authorizing several refills is a useful precaution. Irregular vaginal bleeding may occur. This should not be confused with menses, the much-anticipated evidence of treatment success. EC does not bring on menses immediately. Most women have their period within one week of the expected time. Some may be early or delayed.

What to do if the patient vomits shortly after taking the EC? Some authorities advise repeating the dose. If vomiting is severe, the pills may be given vaginally. Levonorgestrel causes less nausea and vomiting.

Routine follow-up is not necessary.

The likelihood of harm due to repeated use is low.

If the patient is later found to be pregnant because EC failed, or because she was already pregnant before treatment, or because coital acts after treatment led to pregnancy, "the patient should be advised of all available options, including delivery and abortion."

"No medical reason exists for emergency hormonal contraception to be available only by prescription." Until this becomes available, telephone screening and prescribing without an office visit is reasonable. Women should be advised that this service is freely available. This approach is currently being used at Planned Parenthood clinics in North Carolina.

Medicolegal risks: Physicians who fail to offer EC when medically indicated may leave themselves open to legal action for substandard care. One court held a hospital liable for failing to provide a rape victim with information about, and access to, EC

Annals Int Med August 6, 2002; 137: 180-89 Review article, first author David A Grimes, Family Health International, Research Triangle Park, North Carolina. **www.annals.org**

Comment:

Practical Pointers has abstracted other articles about EC. I believe a periodic review is helpful and may lead to more general use by primary care clinicians. It is a vital service.

I believe our society will before too long become enlightened enough to allow EC to be dispensed by pharmacists without a prescription. RTJ

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Evidence Suggesting That Antibiotic Therapy Is Indicated

8-12 NEW STRAINS OF BACTERIA AND EXACERBATIONS OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Morbidity and mortality among persons with COPD are related in large part to acute exacerbations. The role of bacterial pathogens is controversial. Older studies reported that the rate of isolation of pathogens was the same during acute exacerbations as during stable disease. These studies did not differentiate among strains within a bacterial species. They did not attempt to detect changes in strains over time.

This study hypothesized that the acquisition of new strains of pathogenic bacterial species in patients with COPD who had no immunity to the strain would lead to an exacerbation.

Conclusion: Acquisition of a new strain was associated with exacerbations.

STUDY

1. Prospective study of 81 patients assessed clinical information and collected sputum samples for culture each month and during exacerbations.
2. Performed molecular typing of sputum isolates of 4 different pathogens (*H influenzae, M catarrhalis, S pneumoniae, and P aeruginosa*.)

RESULTS

1. Over 56 months, the 81 patients with COPD made over 1900 clinic visits; over 375 for exacerbations. (About 2 per patient per year.)
2. Isolation of a new strain of the 4 pathogens was associated with a significantly increased risk of an exacerbation -- 33% of exacerbations were associated with a new strain vs 15% associated with isolation of an old strain.

DISCUSSION

1. This finding contributes to the growing body of evidence that bacteria cause a substantial proportion of exacerbations.
2. The investigators speculate that a strain-specific protective immune response develops after an exacerbation.. Acquisition of a new strain to which the patient is susceptible leads to an exacerbation.
3. Some patients had a new bacterial strain in the absence of an exacerbation. Possibly these strains were less virulent. Or the new strain may have caused symptoms which were not severe enough to prompt the patient to seek medical help.
4. Some exacerbations occur in the absence of bacteria in sputum. Some may be due to viral infections; some

due to bacteria not tested for in the study.

CONCLUSION

Isolation of new strains of bacteria in patients with COPD was associated with acute exacerbations --evidence that many exacerbations are due to bacterial infection.

NEJM August 15, 2002; 347: 465-71 Original investigation, first author Sanjay Sethi, State University of New York, Buffalo **www.nejm.org**

Comment:

Also suggests that antibiotic treatment is indicated to treat exacerbations. RTJ

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Indication For Oral Therapy Rather Than Parenteral.

8-13 ORAL VITAMIN K LOWERS THE INTERNATIONAL NORMALIZED RATIO MORE READILY THAN SC VITAMIN K IN THE TREATMENT OF WARFARIN-ASSOCIATED COAGULOPATHY.

Compared with withholding of warfarin, use of low-dose vitamin K produces a faster reduction when the INR becomes too high. This potentially reduces risk of bleeding.

Parenteral vitamin K is most commonly used in the USA.

This study asked -- is oral administration more effective than subcutaneous (**sc**) administration?

Conclusion: Yes it is.

STUDY

1. Randomized, controlled trial entered over 50 patients. All were receiving warfarin and were considered over-coagulated (INR 4.5 to 10; mean = 6.0) None had bleeding.
2. Risk of hemorrhage in patients with INR less than 4.5 was not considered to warrant intervention with vitamin K.
3. Randomized to: 1) 1 mg oral vitamin K1, or 2) 1 mg sc vitamin K1. Either phytonadione[1] or phytomenadione was used. Warfarin was stopped.
4. Primary outcome = INR on the day after administration. Goal was to reduce INR to between 1.8 and 3.2, thus maintaining a therapeutic ratio.

RESULTS

1. Fifteen of 26 (57%) in the oral group achieved a therapeutic INR (1.8 to 3.2) on the next day , vs 6 of 25 (24%) in the sc group. (NNT to benefit one patient with oral therapy vs sc = 3)
2. Three patients in the oral group had INR less than 1.8 the next day vs none in the sc group.

Sixteen patients in the oral group were able to safely restart warfarin on the day after oral therapy vs 7 in the sc group.

DISCUSSION

1. Oral vitamin K was more effective than sc vitamin K in re-establishing a therapeutic INR in asymptomatic patients with warfarin-associated coagulopathy and an INR 4.5 to 10.
2. Currently, it is common practice not to treat patients receiving warfarin who present with excessively increased INR. This may be due in part because of the perception that these patients have a low risk of bleeding. The risk has probably been underestimated.

CONCLUSION

In asymptomatic patients with supra-therapeutic INR values (4.5 to 10) while receiving warfarin, oral vitamin K lowered INR more rapidly to a therapeutic level than sc K.

The day after administration of oral K, the INRs remained within therapeutic range in many patients, allowing reinstitution of warfarin therapy.

Annals Int Med August 20, 2002: 137: 251-54 Original investigation, first author Mark A Crowther, St Joseph's Hospital, Hamilton, Ontario, Canada. **www.annals.org**

Comment:

1 Phytonadione is available in the USA as *aqua-MEPHYTON* for sc injection and *Mephyton* for oral use. The dose recommended by the PDR for over coagulation by warfarin is higher than the dose used in the trial.

Oral therapy makes sense since vitamin K reaches the liver immediately. RTJ

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Salicylic Acid Preferable

8-14 LOCAL TREATMENTS FOR CUTANEOUS WARTS

Extragenital viral warts are common, benign, and usually self-limited. Some advise no treatment. However, there is social stigma attached to warts on the hands and face. Warts on the soles of the feet and near the nails can be painful.

This systematic review assessed evidence for the efficacy of local treatments.

Conclusion: There is good evidence that topical treatments containing salicylic acid have the best therapeutic effect.

STUDY

1. Fifty trials were identified. Only two were classified as high quality. Thus, evidence from these studies was generally weak. Despite this, some useful pooling of data was possible.
2. Main outcome was complete disappearance of the warts.

RESULTS

1. Placebo: 17 trials with placebo reported a cure rate of 30% after an average 10 weeks.
2. Salicylic acid: 13 trials used various preparations (15% to 26%). Pooled data from 6 controlled trials showed a cure rate of 75% vs 48% with placebo. Minor skin irritation was reported occasionally, but generally there were no harmful effects.
3. Cryotherapy: 16 trials assessed cryotherapy. 2 small trials compared cryotherapy with placebo or with no treatment. There was no significant difference in cure rate. Four trials showed "aggressive" treatment (various definitions) was more effective than "gentle" therapy, with cure rates of 52% and 31%. Pain and blistering seemed to be more common with aggressive cryotherapy. Some participants withdrew.
4. Topical treatment with topical dinitrochlorobenzene: showed some evidence of efficacy. No precise data reported on adverse effects. Some reported sensitization after a second application with major local irritation with and without blistering.
5. Intralesional bleomycin: no consistent evidence found for effectiveness in 5 trials. Some trials reported pain in most participants.
6. A variety of other treatments (fluorouracil, intralesional interferons, photodynamic therapy, pulsed laser) reported various efficacy and adverse effects.

DISCUSSION

1. Most trials were of low quality. Study designs were heterogeneous. The dearth of high quality evidence prevents the rational use of treatments. Simple salicylic acid seems to be both effective and safe.
2. No clear evidence that any other treatments have a particular advantage of either higher cure rates or fewer adverse effects than salicylic acid.

CONCLUSION

Topical treatments containing salicylic acid have a favorable therapeutic effect.

BMJ August 31, 2002; 325: 461-64 Original investigation, first author Sam Gibbs, Ipswitch Hospital, UK.
www.bmj.com....

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"Pain is whatever the patient says it is, and exists whenever the patients says it does."

8-15 EFFECTIVE PAIN TREATMENT PROMOTES ACTIVITIES

"The patient's self-report is the single most reliable indicator of pain and its intensity."

Chronic pain typically spawns a constellation of somatic and psychological symptoms. It hijacks a person's attention, diminishes concentration, and impairs memory. Sufferers become irritable and anxious. They sleep poorly, and feel fatigue during waking hours. Some stop work or leave school, and withdraw from family and social interactions.

Sufferers often feel helpless. People with poor coping skills decompensate further. Cantankerous people get testier. Dependent people cry out for more attention. Depression intensifies pain. The pain then reinforces feelings of hopelessness.

Regardless of the pain's location or putative underlying pathophysiological effects, people with chronic pain behave similarly,. Their pain is often disproportionate to the tissue injury and has atypical non-anatomic sensory features. Their pain responds poorly to both conventional analgesic medications and specific treatment directed at peripheral nocioceptive generators. They are intolerant to stress of all kinds. They react poorly to light, noise, physical activity, and "sometimes, it seems, to life in general".

Worries about addiction, physical dependence, and tolerance complicate treatment. Addiction is a disease process. Physical dependence and tolerance are expected responses to prolonged treatment. Some patients show reluctance about using pain medication, fearing addiction or uncontrollable adverse effects. Some think use of medication will hide other aspects of the disease, or that they should reserve medications until the pain is unbearable. Patient education aimed at these concerns is integral to therapy.

When prescribing opioids, individualized dosage is the key. There is no way to know in advance what a patient will require. Medication should be taken around the clock, rather than as needed.

Neuropathic pain involves loss of the large diameter myelinated sensory fibers involved in light touch. Light touch inhibits nocioception. Loss of this inhibition leads to a direct response of sensory fibers to stimuli which normally would not cause pain. There are many causes (eg, diabetes, cancer). Patients seeking help with nocioceptive pain typically have seen many doctors and tried many medications. They have increased risk of depression and substance abuse. Antidepressants and anticonvulsants are first-line treatments. Tricyclic antidepressants raise levels of serotonin and norepinephrine, particularly at the level of the spinal cord, thereby shutting off nocioceptive signals from the periphery. Nortriptyline (*generic*) and desipramine (*Norpramin*; *generic*) are preferred because they have fewer adverse effects. Tricyclics generally provide pain relief at a lower dose and sooner than they provide an antidepressant response. Increasing the dose may benefit non-responders. The overall number to treat (NNT) to get at least 50% pain relief is 2 to 3 for tricyclics.

Selective serotonin reuptake inhibitors, despite their efficacy as antidepressants, have been disappointing in providing pain relief.

Older anticonvulsants, such as carbamazepine (*Tegretol*) and valproic acid (*Depakene*) provide relief, but they have the most adverse effects. Gabapentin (*Neurontin*) and topiramate (*Topamax*) have fewer adverse effects, but may not work as well.

Opioids also may have some efficacy.

Cognitive behavior approaches show patients how to exert control over their pain. Relaxation training may involve focusing on breathing, which distracts attention from pain. Patients may also benefit from learning to

relax muscle groups, to conjure a relaxing image, or to focus on feelings of calmness. Relaxation increases pain tolerance and decreases feelings of distress and hopelessness.

Biofeedback gives patients information about their physiologic responses and attempts to alter them. It is a way to teach patients about muscle tension. It works particularly well for patients with tension and migraine headaches and other conditions exacerbated by stress. “Physicians can promote use of cognitive-behavioral techniques by educating patients about mind/body interactions and reassuring them that the pain is real and that psychologic therapies complement other medical care.”

Multidisciplinary pain treatment centers don’t see pain cessation as their primary goal. Instead, they seek to help people return to normal activities and improve quality of life.

JAMA August 28, 2002; 288: 948-49 “Medical News and Perspectives” commentary by Lynne Lamberg, JAMA staff, on a conference held in Philadelphia. **www.jama.com**

Comment:

These comments pertain especially to specialists in pain control. Primary care clinicians may help by reinforcing some of the aspects of pain control and educating their patients with chronic pain.

Obviously, clinical acumen is required to sort out abusers from true sufferers. I believe most primary care clinicians would choose to refer chronic pain sufferers to a pain center.

The article presents 4 resources for pain management available on the internet. RTJ

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A Helpful Clinical Application

8-16 LOCAL WARMING AND INSERTION OF PERIPHERAL VENOUS CANNULAS.

Insertion is usually technically easy, and causes only mild distress. Sometimes it can be problematic and time consuming. For some patients (iv drug users; patients who have had multiple chemotherapy) it is notoriously difficult. Once an initial attempt has failed, sympathetic activation makes subsequent attempts increasingly difficult.

This study asked – Does warming the hand and lower forearm facilitate insertion?

Conclusion: Yes

STUDY

1. Followed 40 patients on chemotherapy or with leukemia, and 100 neurosurgical patients.
2. Randomized to: 1) warmed hands and forearms with a heating unit for 15 minutes,
   or 2) passive insulation (heater not turned on). The cannula was to be inserted on the back of the hand.
3. Main outcome: Success rate of insertion.

RESULTS

1. It took 30 seconds to insert the cannula in the warmed group vs 62 seconds in the non-warmed group.

2. Three first attempts failed in the warmed group vs 14 in the passive group.

DISCUSSION

1. Cannulation is easier when the veins are more visible. This can be helped by having the arm hanging down, or warming.

CONCLUSION

Local warming facilitated the insertion of cannulas, reducing both the time and number of attempts required.

BMJ August 24, 2002; 325: 409-10 Original investigation, first author Rainer Lenhardt, University of Louisville, KY **www.bmj 7361**

Comment:

I abstracted the article because warming might be a welcome intervention for primary care clinicians and their patients in whom intravenous fluid lines are difficult to insert.

I have found a partially inflated BP cuff , used as a tourniquet, is also helpful. RTJ

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