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From the CDC:MMWR

Twenty-Five Years of HIV/AIDS – United States, 1981-2006

On June 5, 1981, *MMWR* published a report of *Pneumocystis carinii* pneumonia in five previously healthy young men in Los Angeles, California. These cases were later recognized as the first reported cases of acquired immunodeficiency syndrome (AIDS) in the United States. Since that time, this disease has become one of the greatest public health challenges both nationally and globally. Human immunodeficiency virus (HIV)

and AIDS have claimed the lives of more than 22 million persons worldwide, including more than 500,000 persons in the United States.

In 2006, more than 1 million persons are living with HIV/AIDS in the United States, and an estimated 40,000 new HIV infections are expected to occur this year. Since the beginning of the epidemic, countless persons and organizations, inside and outside of government, have mobilized to prevent

and treat this disease. These efforts have been enhanced by the commitment and involvement of those living with HIV/AIDS. At this milestone marking the 25th year of AIDS, one way to recognize those persons who have died and those who have been affected by this epidemic is to accelerate the development of measures for preventing HIV transmission.

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From the MMWR

Prevention of Rotavirus Gastroenteritis Among Infants and Children

Recommendations of the Advisory Committee on Immunization Practices (ACIP)

Introduction

Rotavirus is the most common cause of severe gastroenteritis in infants and young children worldwide. In developing countries, rotavirus gastroenteritis is a major cause of childhood death and is responsible for approximately half a million deaths per year among children aged <5 years. Rotavirus gastroenteritis results in relatively few childhood deaths in the United States (approximately 20-60 deaths per year among children aged <5). However, nearly every child in the United States is infected with rotavirus by age 5 years, and the majority will have gastroenteritis, resulting in approximately 410,000 physician visits, 205,000 – 272,000 emergency department (ED) visits, and 55,000 – 70,000 hospitalizations each year and direct and indirect costs of approximately \$1 billion. This report presents the Advisory Committee on Immunization Practices (ACIP) recommendations on use of a live, oral, human-bovine reassortant rotavirus vaccine (RotaTeq®, produced by Merck and Company, Whitehouse Station, New Jersey) that was

licensed in February 2006 by the Food and Drug Administration (FDA) for use among U.S., infants.

Rationale for Rotavirus Vaccination

Several reasons exist to adopt vaccination of infants as the primary public health measure for prevention of severe rotavirus disease in the United States. First, rates of rotavirus illness among children in industrialized and less-developed countries are similar, indicating that clean water supplies and good hygiene have little effect on virus transmission; therefore, further improvements in water or hygiene are unlikely to have a substantial impact on disease prevention. Second, in the United States, a high level of rotavirus morbidity continues to occur despite available therapies. For example, the rate of hospitalizations for gastroenteritis in young children declined only 16% during 1979-1995, despite the widespread availability of oral rehydration solutions and recommendations by experts, including the American Academy of Pediatrics and CDC, for the use of oral rehydration solutions in

the treatment of dehydrating gastroenteritis. Third, studies of natural rotavirus infection indicate that initial infection protects against subsequent severe gastroenteritis, although subsequent asymptomatic infections and mild disease might still occur. Therefore, vaccination early in life, which mimics a child's first natural infection, will not prevent all subsequent disease, but should prevent most cases of severe rotavirus disease and their sequelae (e.g., dehydration, physician visits, hospitalizations, and deaths).

Recommendations for the Use of Rotavirus Vaccine

Routine Administration

ACIP recommends routine vaccination of U.S. infants with 3 doses of rotavirus vaccine administered orally at ages 2, 4, and 6 months (Table 1). The first dose should be administered between ages 6-12 weeks. Subsequent doses should be administered at 4-10 week intervals, and all 3 doses of vaccine should be administered by age 32 weeks.

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Successes in HIV Prevention

CDC's overarching HIV-prevention goal is to reduce the number of new HIV infections and to eliminate racial and ethnic disparities by the promotion of HIV counseling, testing, and referral and by encouraging HIV prevention among both persons living with HIV and those at high risk for contracting the virus.

The decrease in mother-to-child (perinatal) HIV transmission is a public health achievement in HIV prevention in the United States. The number of infants infected with HIV through perinatal transmission has decreased from 1,650 during the early-to-mid-1990s to 144-236 in 2002. This decline is attributed to multiple interventions, including routine voluntary HIV testing of pregnant women, the use of rapid HIV tests at delivery for women of unknown HIV status, and the use of antiretroviral therapy by HIV-infected women during pregnancy and by infants after birth.

Widespread availability and use of diagnostic and screening tests for HIV infection to promote individual knowledge of HIV serostatus and to ensure the safety of the nation's blood supply has been another success. Since the mid-1980s, blood donor screening methods and testing technology have steadily improved; today, with nucleic acid testing, the risk for HIV transmission is estimated at as low as one per 2 million blood donations. Widespread HIV testing promotion and uptake have resulted in approximately 50% of persons aged 15--44 years in the United States reporting that they have had an HIV test, with a high proportion of those at increased risk (e.g., men who have sex with men [MSM] and injection-drug users) reporting having an HIV test during the preceding year.

National HIV-prevention initiatives have been supported by HIV-prevention programs of state and local health departments, community-based organizations, and other partners. Prevention interventions, including drug treatment programs, peer outreach, and risk reduction, have contributed to a steady decline in new HIV/AIDS diagnoses among injection-drug users in 35 areas with HIV reporting, from an estimated 8,048 in 2001 to 5,962 in 2004. Another prevention success has been the diffusion of evidence-based effective behavioral interventions (DEBIs) for

primary and secondary HIV prevention among persons, small groups, and communities. These interventions help to ensure that those persons at greatest risk for HIV transmission or acquisition are able to obtain intensive support to reduce risk behaviors and adopt protective strategies for their health and the health of their partners.

Remaining Challenges

Despite these successes, several challenges remain. HIV/AIDS continues to be a leading cause of illness and death in the United States. An estimated 252,000-312,000 HIV-infected persons in the United States are unaware of their HIV infection. Not only are they at high risk for transmitting HIV to others, but they are much less likely to take advantage of effective medical treatments.

Certain subpopulations remain at increased risk. MSM account for approximately 45% of newly reported HIV/AIDS diagnoses and nearly 54% of cumulative AIDS diagnoses. A recent survey indicated that in several large U.S. cities, approximately one in four MSM surveyed in social venues is infected with HIV, and nearly 50% of MSM are unaware of their HIV infections. Moreover, young MSM were least likely to know they were infected, and MSM from racial/ethnic minority populations consistently demonstrated higher prevalence than white MSM. Annual HIV incidence among MSM is high, ranging from 1.2% to 8.0%. Racial and ethnic minority communities also are disproportionately affected by HIV/AIDS. During 2001--2004, in 35 areas with HIV reporting, 51% of all new HIV/AIDS diagnoses were among blacks, who account for approximately 13% of the U.S. population. Of these, 11% (12,650) of HIV/AIDS diagnoses in men were in black men who were infected through heterosexual contact, and 54% (23,820) of HIV/AIDS diagnoses in women were in black women infected through heterosexual contact. Today, women account for approximately one quarter of all new HIV/AIDS diagnoses and, in 2002, HIV infection was the leading cause of death for black women aged 25--34 years.

A scaling up of the diffusion of effective behavioral interventions (e.g., DEBIs) is required; however, limitations exist in CDC's ability to meet current training and technical assistance needs, as well as states' abilities to implement them widely. Other gaps include

the lack of data regarding the effectiveness of adapting DEBIs to all at-risk populations. In many locales, the community-level workforce might be weakened by attrition, fatigue, and inadequate program skills. Changing public perceptions of HIV/AIDS in the United States, coupled with the widespread availability of highly active antiretroviral treatment, has led to the widespread belief that AIDS is no longer a problem or a severe disease in the United States. Although 26% of persons in the United States consider AIDS as a top health concern for the nation (second only to cancer [35%]), the proportion who see it as the number one health problem has declined during the past few years. Complacency, stigma, and discrimination persist and all decrease motivation among persons and communities to adopt risk-reduction behaviors, get tested for HIV, and access prevention and treatment services.

New Strategies

Despite these challenges, substantial opportunities remain to enhance and demonstrate the effectiveness of HIV-prevention measures. New strategies will need to be combined with a scaling up of traditionally effective interventions that are tailored for local epidemiology and context to maximize public health impact despite resource constraints.

Partnerships. Eliminating HIV/AIDS in the United States cannot be achieved by any single agency or group, but will require public health partnerships comprising persons, communities, agencies, and the private sector. Strong partnerships are especially important to address stigma and discrimination and to promote greater acceptance of those living with HIV/AIDS. Religious and business communities and correctional and mental health services all need to be part of a national mobilization in the prevention of HIV transmission. Improved collaboration across government agencies is also required to provide a unified public health infrastructure dedicated to research, prevention, treatment, care, and rehabilitative services for persons affected by HIV/AIDS.

Increased access to voluntary HIV testing. For the estimated quarter of a million persons living with HIV who are unaware of their HIV infection, testing is the gateway to lifesaving treatment. Persons who know

they are infected with HIV are more likely to take steps to prevent themselves from transmitting the virus to others. To reduce the number of persons with undiagnosed HIV infections, a sustained expansion of access to and uptake of HIV testing will be required. This reduction can be achieved by making voluntary HIV testing a routine part of medical care, reducing the barriers to HIV testing, and ensuring easy access to new rapid HIV tests that, in many jurisdictions, can be performed by trained persons who are not clinicians.

Prevention messages focused on both HIV-positive and HIV-negative persons. Providing culturally and contextually appropriate messages is essential to help persons at risk avoid contracting HIV infection and to help those who are infected with HIV avoid transmitting the virus. Prevention messages also need to focus on the role of alcohol and drug abuse in HIV risk. Substance abuse (via injection drugs, alcohol, or methamphetamines) can facilitate risky behaviors among persons who might otherwise protect themselves and others from HIV. Preventing substance abuse and increasing access to substance-abuse treatment are examples of effective interventions for reducing HIV transmission.

Integrated prevention programs. Federal, state, and local prevention measures are increasingly focused on maximizing public health impact for any given program. One approach to increasing program effectiveness is increasing the development and implementation of integrated HIV-prevention programs. Several integrated programs exist across the nation, combining HIV, sexually transmitted disease (STD), viral hepatitis, mental health, and substance abuse services. Effective integration requires that program leaders 1) better define program integration goals, 2) identify best practices in the field and ensure that they are disseminated and implemented widely, 3) implement policies and regulations that enhance and support integration at local levels, and 4) evaluate the most cost-effective strategies.

Improved monitoring of new HIV infections. Reliable, population-based data are essential to track the HIV epidemic and target prevention measures accurately. For decades, AIDS surveillance has been a cornerstone of national, state, and local efforts to monitor the scope and impact of the HIV epidemic. However, AIDS surveillance data no longer accurately describe the full extent of the

epidemic because effective therapies have slowed the progression of the disease. Since 1999, CDC has recommended that states conduct HIV reporting using the same name-based approach currently used for AIDS surveillance nationwide. Currently, 43 states and five territories use confidential, name-based HIV case reporting. Several of the remaining states intend to implement name-based HIV surveillance in

2006. Moreover, in 2006, data from a new national HIV incidence surveillance system will provide the most accurate estimates of new HIV infections. These data, combined with improved surveillance of the patterns and distributions of risk behaviors in the population, will refine the targeting and delivery of HIV-prevention efforts.

Reference: www.cdc.gov/mmwr/preview/mmwrhtml/mm5521a1.htm?

Drug Makers Pay for Lunch as They Pitch

Anyone who thinks there is no such thing as a free lunch has never visited 3003 New Hyde Park Road, a four-story medical building on Long Island, where they are delivered almost every day.

On a recent Tuesday, they began arriving around noon. Steaming containers of Chinese food are destined for the 20 or so doctors and employees of Nassau Queens Pulmonary Associates. The drug maker paid the \$258 bill.

A deliveryman carrying trays of gourmet sandwiches sashayed past patients at Advanced Internal Medicine. The bill showed that one drug maker was picking up the bill. The doctors in the group must have liked the sandwiches. The next day, the exact same delivery came in, paid for by another company.

Free lunches like those at the medical building in New Hyde Park, N.Y., occur regularly at doctors' offices nationwide, where delivery people arrive with lunch for the whole office, ordered and paid for by drug makers to the tune of hundreds of millions of dollars a year.

Like the "free" vacation that comes with a time-share pitch attached, the lunches go down along with a pitch from pharmaceutical representatives hoping to bolster prescription sales. The cost of the lunches is ultimately factored in to drug company marketing expenses, working its way into the price of the prescription drugs.

Doing business over lunch is a common practice in many fields, but drug makers

have honed it to perfection, particularly since 2002, when the drug industry adopted a new code banning many other free enticements—golf outings, athletic tickets, trips and lavish dinners for doctors. The code gives approval to modest meals in the course of business. And conventional wisdom in both the pharmaceutical industry and the medical profession is that a lunch is too small to pose an ethical problem. But a growing number of critics say that even those small lunches should be banned.

A former pharmaceutical representative called lunch "incredibly effective" in lifting pharmaceutical sales for the companies where she worked. "We got the numbers of what the physicians were prescribing. If I brought in lunch one week, I could see the following week if that lunch had an impact."

Dr. John G. Scott, assistant professor of family medicine at the University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School in New Brunswick, N.J., is examining the interaction between medical practices and pharmaceutical representatives.

"We found that some offices get breakfast and lunch every day," said Dr. Scott, who call lunch the "currency" that buys access to doctors' offices for drug representatives. He also noted that some doctors were hard pressed to meet payrolls and that the lunches provided an added benefit for their employees.

Reference: New York Times. July 28, 2006.

Prevention of Rotavirus Gastroenteritis Among Infants and Children *Continued from page 3*

Vaccination should not be initiated for infants aged >12 weeks because of insufficient data on safety to the first dose of rotavirus vaccine in older infants. Vaccine should not be administered after age 32 weeks because of insufficient data on the safety and efficacy of rotavirus vaccine in infants after this age. For infants in whom the first dose of rotavirus vaccine is inadvertently administered off label at age \geq 13 weeks, the rest of the rotavirus vaccination series should be completed as per the schedule because timing of the first dose should not affect the safety and efficacy of the second and third dose. Infants who have had rotavirus gastroenteritis before receiving the full course of rotavirus

vaccinations should still initiate or complete the 3-dose schedule because the initial infection frequently provides only partial immunity.

Infants who are being breastfed can receive rotavirus vaccine. The efficacy of rotavirus vaccine is similar among breastfed and nonbreastfed infants. Like other vaccines, rotavirus vaccine can be administered to infants with transient, mild illnesses, and with or without low-grade fever.

Simultaneous Administration

Rotavirus vaccine can be administered together with DTaP, Hib vaccine, IPV, hepatitis B vaccine, and pneumococcal conjugate

vaccine. Available evidence suggests that the rotavirus vaccine does not interfere with the immune response to the Hib vaccine, IPV, hepatitis B vaccine, and pneumococcal conjugate vaccine, and the diphtheria and tetanus antigens in DTaP.

Because validation of the pertussis assays is still under review, insufficient immunogenicity data are available to confirm lack of interference of immune responses when rotavirus vaccine is concomitantly administered with childhood vaccines to prevent pertussis.

Table 1. Recommendations and quality of evidence for recommendations for use of rotavirus vaccine

	Level of evidence*	Strength of evidence [†]
Recommendations		
Routine vaccination at ages 2,4 and 6 months	I	A
Administer to breastfed infants	I	A
Co-administer with DTaP, Hib vaccine, IPV, hepatitis B vaccine, and pneumococcal conjugate vaccine	I	A
Administer to infants with mild illness	I	B
Contraindications		
Serious allergy to a vaccine component or a previous vaccine dose	III	B
Precautions		
Altered immunocompetence	III	C
Moderate-to-severe illness, including acute gastroenteritis	III	C
Chronic gastrointestinal disease	III	C
History of intussusception	III	C
Special situations		
Premature infants (aged <37 weeks)	I	B
Infants living in households with immunocompromised persons	III	C
Infants living in households with pregnant women	III	C
Regurgitation of vaccine	III	C
Children hospitalized after vaccination	III	C

*Level of evidence

- I Evidence from randomized controlled trials.
- II Evidence from other epidemiologic studies.
- III Opinions of authorities.

† Strength of evidence

- A Good evidence to support recommendation
- B Fair evidence to support recommendation.
- C Insufficient evidence

Contraindications

Rotavirus vaccine should not be administered to infants who have severe hypersensitivity to any component of the vaccine or who have experienced a serious allergic reaction to a previous dose of rotavirus vaccine.

From the FDA MedWatch

Brand (Generic) Name	Sections Modified	Summary of Changes to Contraindications and Warnings
Hydromorphone hydrochloride (Dilaudid-HP®)	BOXED WARNING	BOXED WARNING Dilaudid-HP (High Potency) is a highly concentrated solution of hydromorphone, a potent Schedule II controlled opioid agonist... Schedule II opioid agonists, including morphine, oxycodone, fentanyl and methadone, have the highest potential for abuse and risk of producing respiratory depression. Alcohol, other opioids and central nervous system depressants (sedative-hypnotics) potentiate the respiratory depressant effects of hydromorphone, increasing the risk of respiratory depression that might result in death
Lenalidomide (Revlimid®)	BOXED WARNING <ul style="list-style-type: none"> • Special Prescribing Requirement • Revassist Program Description <ul style="list-style-type: none"> • Female Patients • Male Patients WARNINGS <ul style="list-style-type: none"> • Pregnancy Category X 	BOXED WARNING Special Prescribing Requirement ...Under this program, only prescribers and pharmacists registered with the program can prescribe and dispense the product. In addition, Revlimid must only be dispensed to patients who are registered and meet all the conditions of the Revassist Program.
Docetaxel (Taxotere®) Injection Concentrate	BOXED WARNING <ul style="list-style-type: none"> • Fatal Anaphylaxis 	BOXED WARNING Severe hypersensitivity reactions characterized by generalized rash/erythema, hypotension and/or bronchospasm, or very rarely fatal anaphylaxis, have been reported in patients who received the recommended 3-day dexamethasone pre-medication.....
Natalizumab (Tysabri®)	BOXED WARNING	BOXED WARNING (new) Tysabri increases the risk of progressive multifocal leukoencephalopathy (PML), an opportunistic viral infection of the brain that usually leads to death or severe disability. Although the cases of PML were limited to patients with recent or concomitant exposure to immunomodulators or immunosuppressants, there were too few cases to rule out the possibility that PML may occur with Tysabri monotherapy. Because of the risk of PML, Tysabri is available only through a special restricted distribution program called the TOUCH Prescribing Program. Under the TOUCH Prescribing Program, only prescribers, infusion centers, and pharmacies associated with infusion centers registered with the program are able to prescribe, distribute, or infuse the product.... Healthcare professionals should monitor patients on Tysabri for any new sign or symptom that may be suggestive of PML. Tysabri dosing should be withheld immediately at the first sign or symptom suggestive of PML.....
Telithromycin (Ketek®) tablets	CONTRAINDICATIONS	CONTRAINDICATIONS Ketek is contraindicated in patients with previous history of hepatitis and/or jaundice associated with the use of Ketek tablets, or any macrolide antibiotic.
Dronabinol (Marinol®)	CONTRAINDICATIONS	Marinol Capsules is contraindicated in any patient who has a known sensitivity to Marinol Capsules or any of its ingredients. It contains cannabinoid and sesame oil and should never be used by patients allergic to these substances.
Carisoprodol (Soma®) Tablets, USP	CONTRAINDICATIONS	CONTRAINDICATIONS Soma is contraindicated in patients with acute intermittent porphyria, and in patients who are allergic to or who have idiosyncratic reactions to carisoprodol or meprobamate related compounds.

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<p>Rosiglitazone maleate and glimepiride (Avandaryl®) Tablets</p>	<p>WARNINGS</p> <ul style="list-style-type: none"> • Rosiglitazone • Cardiac Failure and Other Cardiac Effects 	<p>Patients with congestive heart failure (CHF) New York Heart Association (NYHA) Class 1 and 2 treated with rosiglitazone have an increased risk of cardiovascular events. A 52-week, double-blind, placebo-controlled echocardiographic study was conducted in 224 patients with type 2 diabetes mellitus and NYHA Class 1 or 2 CHF (ejection fraction <45%) on background antidiabetic and CHF therapy.....</p>
<p>Topotecan hydrochloride (Hycamtin®) for Injection or Intravenous Use</p>	<p>WARNINGS</p> <ul style="list-style-type: none"> • Bone Marrow Suppression • Neutropenia • Cervical Cancer • Thrombocytopenia • Cervical Cancer • Anemia • Cervical Center 	<p>Bone Marrow Suppression Bone marrow suppression (primarily neutropenia) is the dose-limiting toxicity of Hycamtin. Neutropenia is not cumulative over time. The following data on myelosuppression is based on:</p> <ul style="list-style-type: none"> • the experience of 140 patients with cervical cancer randomized to receive Hycamtin 0.75 mg/m²/day on days 1, 2, and 3 plus cisplatin 50 mg/m² on day 1. <p>Neutropenia</p> <ul style="list-style-type: none"> • Cervical cancer experience: Grade 3 and grade 4 neutropenia affected 26% and 48% of patients, respectively. <p>Thrombocytopenia</p> <ul style="list-style-type: none"> • Cervical cancer experience: Grade 3 and grade 4 thrombocytopenia affected 26% and 7% of patients, respectively.
<p>Sevoflurane (Ultane®) Volatile Liquid for Inhalation</p>	<p>WARNINGS</p> <ul style="list-style-type: none"> • Initial Section • Perioperative Hyperkalemia 	<p>Initial Section Sevoflurane may present an increased risk in patients with known sensitivity to volatile halogenated anesthetic agents. KOH containing CO₂ absorbents are not recommended for use with sevoflurane.</p>

Reference: www.fda.gov/medwatch/SAFETY/2006/jun06.htm

From the Institute for Safe Medication Practices

Our Long Journey Towards a Safety-Minded Just Culture: Part I

Punitive culture

Before the 1990s, healthcare providers often attempted to manage risk and errors by making frequent exhortations to work carefully and by retraining, counseling, or disciplining workers involved in errors, particularly those closest to the event. The prevailing thought at the time was that individual workers were fully, and sometimes solely, accountable for the outcomes of patients under their care, even if the underlying processes for achieving those outcomes were not under their direct control.

Perfect performance was expected and felt to be achievable through education, professionalism, vigilance, and care. The threat of disciplinary action for errors was thought to be necessary to maintain proper safety vigilance. Counseling sessions after an error often focused on perceived weaknesses in the individual worker, with little thought to the system's contribution. Improvement strategies offered to the worker were often goal oriented—"follow the 5 rights," for example, when a medication error

occurred—with little direction about how to achieve the goals or how to make safer behavioral choices.

In many cases, the severity of disciplinary action was determined by the severity of the undesirable outcome. Some believed that the consequences of even a single mistake were enough to justify punitive sanctions. Thus, workers who made an error that caused patient harm were often felt to be "justly" disciplined. Procedural violations were simply regarded as unacceptable, which offered little insight into their system-based causes. Many believed that "bad practitioners" were the cause of frequent or harmful errors, and that weeding out these individuals would result in a safer healthcare environment.

The truth is, the effect of such a punitive environment turned out to be the exact opposite of the intended result. Fear of retribution, ranging from undue embarrassment to employment and/or licensure termination, drove errors underground. Frontline workers were afraid to report their own errors or those of a colleague. Few even considered reporting near misses or hazards that could

lead to errors, believing little would be done to avoid the inevitable. Instead, they created work-arounds in an attempt to avoid these minefields, if they were noticed at all. Middle managers and leaders grew content with believing that "no news" was "good news," thus missing enormous opportunities to learn about risks and implement robust system changes to reduce the chance of error.

Blame-free culture

By the mid 1990s, a culture shift that supported a "blame-free" or "no-blame" response to errors purportedly flourished in many healthcare organizations in response to the shortcomings of a punitive culture. Compared to the culture it sought to replace, it was clearly a step in the right direction. It acknowledged human fallibility and the impossible task of perfect performance. It recognized that most unsafe acts were the result of mental slips or lapses, or honest mistakes that were rooted in system, process, technical, or environmental weaknesses that lay dormant in the organization until errors or

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Therapeutic Frontier

Can Tests Distinguish Between Bacterial and Aseptic Meningitis?

Most cases of acute meningitis in children are aseptic (nonbacterial). Because clinical criteria do not distinguish reliably between bacterial and aseptic meningitis, laboratory tests must be 100% sensitive for bacterial etiology if physicians are to diagnose aseptic meningitis correctly, and tests must be reasonably specific to minimize unnecessary hospitalizations and antibiotic use in children with aseptic meningitis. To see whether this goal is feasible, researchers retrospectively reviewed records for 167 children (median age, 5 years) who were hospitalized in Paris with meningitis (21 cases of bacterial meningitis) from 1995 through 2004.

Gram stain results from cerebrospinal fluid (CSF) and test results for eight potential biologic predictors of meningitis etiology were analyzed (blood levels of C-reactive protein [CRP], procalcitonin, white blood cells [WBCs], and neutrophils; and CSF levels of protein, glucose, WBCs, and neutrophils). Predictors with the best sensitivities for bacterial meningitis were CRP level ≥ 20 mg/L (91%), procalcitonin level ≥ 0.5 ng/mL (89%), CSF protein level ≥ 0.5 g/L (86%), and positive CSF Gram stain (86%). Procalcitonin had the highest specificity (89%). All patients with bacterial meningitis had elevated levels of either procalcitonin or CSF protein.

Comment: Because of the potential for bias in any retrospective study, prospective studies should be performed to confirm whether the combination of procalcitonin and CSF protein reliably distinguishes between bacterial and nonbacterial meningitis. In the U.S., procalcitonin is not generally used for this purpose.

Reference: Dubos F et al. Serum procalcitonin and other biologic markers to distinguish between bacterial and aseptic meningitis. J Pediatr 2006 Jul; 149:72-6.

Adherence to Medication (or Placebo!) Is Linked to Lower Mortality Rates

Many researchers have suggested ways to measure and improve patients' adherence to medications, but does good adherence make a difference in outcome? It makes intuitive sense, but in this meta-analysis, researchers provide quantitative data.

Canadian investigators identified 21 studies in which participants were stratified by medication adherence, including 8 randomized studies with placebo arms (19,633 participants) and 13 cohort studies (27,121 participants). Medications evaluated were those for recent

myocardial infarction, HIV infection, primary prevention of heart disease, type 2 diabetes, heart failure, and Immunosuppression after transplantation. All reported mortality rates according to adherence. Study duration ranged from 10 to 132 months.

Mortality rates were 4.7% in 31,439 participants with good adherence and 8.5% in 15,408 with poor adherence (odds ratio, 0.56). When analysis was limited to placebo recipients, good adherence resulted in the same mortality odds (0.56) as those determined from the entire dataset.

Comment: This group is not the first to show that positive outcomes are associated with good adherence to medication. The important finding is that the same outcomes were associated with good adherence to both placebo and active drugs. The authors conclude that good adherence is a proxy for positive health behaviors (the healthy-adherer effect). Whether or not health outcomes can be improved by increasing adherence to medications remains to be determined.

Reference: Simpson SH et al. A meta-analysis of the association between adherence to drug therapy and mortality. BMJ 2006 Jul 1; 333:15-9.

Delayed Orthostatic Hypotension Isn't Rare

The American Academy of Neurology formally defines orthostatic hypotension (OH) as a reduction in blood pressure within 3 minutes of standing (systolic BP reduction ≥ 20 mm Hg or diastolic BP reduction ≥ 10 mm Hg). However, some patients develop orthostatic symptoms after a longer delay (JW Jun 15 1992, p. 95). In this study, researchers determined the prevalence of delayed OH among 230 consecutive patients referred to an autonomic testing laboratory. Most patients had dizziness, light-headedness, or syncope, and many had underlying conditions such as diabetes and Parkinson disease.

On 45-minute tilt-table testing, 108 patients (47%) had OH lasting at least 3 minutes (those with vasovagal syncope were not included in this subgroup). OH began during the first 3 minutes of testing in 50 patients, between 3 and 10 minutes in 16 patients, and after 10 minutes in 42 patients. Patients also were asked to stand in an upright position for 5 minutes, and BP responses were compared with responses during the first 5 minutes of tilt testing. Of the 230 patients, 19 patients had OH only on standing, 12 had it only on tilt testing, and 41 had it on both.

Comment: These findings suggest that delayed orthostatic hypotension is not rare. Although the

tilt-test findings in this study are noteworthy, it would have been interesting to monitor standing blood pressure for longer than 5 minutes. The authors discuss various mechanisms that probably contribute to delayed OH, but the exact causes remain unclear.

Reference: Gibbons CH and Freeman R. Delayed orthostatic hypotension: A frequent cause of orthostatic intolerance. Neurology 2006 Jul 11; 67:28-32.

Body-Mass Index & Mortality in the U.S.

An association between obesity (BMI, ≥ 30 kg/m²) and increased mortality is widely accepted, but controversy exists about the effect of being overweight (BMI, 25-29.9) on mortality. In this U.S. study, more than 500,000 people (age range, 50-71) completed health questionnaires during 1995 or 1996 that included self-reported height and weight. Participants' vital status was recorded at the end of 2005.

Because smoking confounds the relation between BMI and mortality, the key analyses of this study focused on non-smokers. With BMI of 23.5 to 24.9 as the reference standard, relative risk for death among never-smokers was 1.4 for overweight men and 1.9 for very obese men (BMI, 35-39.9). When the analysis used self-reported BMI at age 50 (instead of current BMI), relative risks for mortality among overweight and obese nonsmoking men were even higher. Findings for women were similar to those for men.

Male and female nonsmokers with BMIs lower than the reference standard also exhibited moderately increased mortality. This association also was noted in analyses of people without known preexisting chronic diseases.

Comment: These findings suggest that being overweight (or obese) increases mortality rates among nonsmokers; in part, the effect presumably is mediated by conditions such as diabetes and hypertension. The mechanism for the association between low BMI and increased mortality among nonsmokers and people without preexisting illness is unclear and was not discussed by the authors. Note that the reference standard used in this study (BMI, 23.5-24.9) corresponds, for example, to a person who is 5-feet 8-inches tall and weighs between 155 and 164 pounds. (A BMI calculator is available on the CDC website.)

Reference: Adams KF et al. Overweight, obesity, and mortality in a large prospective cohort of persons 50 to 71 years old. N Engl J Med 2006 Aug 24; 355:763-78.

proactive assessment efforts brought them to light.

In a "no-blame" culture, there was general agreement that even the most experienced, knowledgeable, vigilant, and caring workers could make mistakes that could lead to patient harm. There was recognition that workers who made honest errors were not truly blameworthy, nor was there much benefit to punishing them for these unintentional acts. Nevertheless, a 2001 ISMP culture survey to which more than 1,200 healthcare professionals responded made two things abundantly clear: while individual attitudes about errors, disciplinary action, and accountability for safety were beginning to move away from being overly punitive, they were not fully supportive of an industry-wide desire to become wholly blame-free. (For details, see our August 22, Sept. 5, and Sept. 19, 2001 newsletters.)

The problem is, the "blame-free" concept has a weakness—it fails to confront individuals who willfully (and often repeatedly) make unsafe behavioral choices, knowingly disregarding a substantial and unjustifiable

risk that most peers would recognize as being likely to lead to a bad outcome. While disciplining for honest mistakes is counterproductive, the failure to discipline workers involved in mishaps accompanied by truly reckless behavioral choices that endanger patients presents a valid objection to a wholly blame-free culture. In these cases, sanctions of an appropriate severity may be warranted. Amnesty for all unsafe acts also lacks credibility and opposes many workers' sense of justice. Thus, a wholly blame-free culture is neither feasible nor desirable.

Just Culture

There is a new, more just culture emerging in healthcare that addresses the weakness in a wholly blame-free approach and also runs counter to an overly-punitive culture. One of the leading authorities on the topic, David Marx, describes it this way:

On one side of the coin, it is about creating a reporting environment where staff can raise their hand when they have seen a risk or made a mistake. It is a culture that rewards reporting and puts a high value on open

communication—where risks are openly discussed between managers and staff. It is a culture hungry for knowledge.

On the other side of the coin, it is about having a well-established system of accountability. A Just Culture must recognize that while we as humans are fallible, we do generally have control of our behavioral choices, whether we are an executive, a manager, or a staff member. Just Culture flourishes in an organization that understands the concept of shared accountability—that good system design and good behavioral choices of staff together produce good results. It has to be both."

In Part II: Where we are going, which will appear in our next newsletter, we will further describe a Just Culture, its vast importance to patient safety, and its ever-gaining ability to finally cause a cultural paradigm shift in various healthcare arenas, including health systems, state departments of health, and professional licensing boards.

To be continued in October Issue.

Reference: <http://ismp.org/Newsletters/acute/articles/20060907.asp?ptr=y>

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