•*ACS Clinical Congress*

Surgeons gather to discuss cancer, gunshot wound epidemic, viruses in the OR, new technology, humanism in medicine

Oct 11 to 16, 1992

The picturesque city of New Orleans hosted the 78th Clinical Congress of the American College of Surgeons (ACS). More than 17,000 physicians, health care professionals, exhibitors, and invited guests attended daily sessions and postgraduate courses in a variety of specialty areas. The following report summarizes some of the sessions held at the meeting.

Breast Cancer

The ACS Commission on Cancer presented a symposium on breast cancer. Robert T. Osteen, MD, FACS, associate professor of surgery, Peter Bent Brigham Hospital, Boston, described the Breast Cancer Patient Care Evaluation Study (North America), which included more than 40,000 patients during two time periods in 1983 and 1990. The number of abnormal screening mammograms increased dramatically, but tumor size at detection decreased.

Insurance coverage affected screening by mammography with privately insured patients' breast cancer being discovered at an earlier stage than patients covered by Medicaid or those who were medically indigent.

The type of surgery used for treatment also changed in the 1983 to 1990 period: partial mastectomy accounted for only 13% of surgery for breast cancer in 1983 but increased to 25% by 1990.

Larry Norton, MD, assistant professor in the Department of Neoplastic Disease, Mount Sinai School of Medicine, New York City, emphasized that anatomic factors are the best prognosticators in breast cancer. Recurrence of breast cancer can be predicted by the presence or absence of cancer cells in the axillary lymph nodes and by the size of the tumor. If the axillary nodes are negative for cancer cells, the prognosis for tumors less than 1 cm in size is good; tumors of 1 to 3 cm require adjuvant therapy; and tumors greater than 3 cm have a poor prognosis.

Monica Morrow, MD, FACS, associate professor, Department of Surgery, University of Chicago, advocated conservative surgery for the majority of women with breast cancer, citing data that show no difference in survival between patients who undergo lumpectomy versus those who have radical mastectomy.

Of all women diagnosed with breast cancer, Dr Morrow said, only 20% have contraindications to breast preservation surgery (ie, pregnancy, multiple geographically distant primary tumors, prior breast radiation therapy, large tumors in small breasts, and scleroderma), yet less than 30% of American women are being treated with breast preservation surgery.

Successful cosmetic outcome with lumpectomy, advised Dr Morrow, is achieved by

- incising the skin directly over the tumor,
- avoiding removal of overlying skin,
- using thick skin flaps,
- incising the breast to reach deep tumors,
- avoiding reapproximation of deep breast tissue,
- avoiding the use of drains, and
- performing subcuticular suturing.

Specimen handling in lumpectomy is important. The pathologist needs a single, uncut specimen with orienting sutures and ink-marked margins.

Michael D. Lagios, MD, Department of Pathology, Children's Hospital, San Francisco, described ductal carcinoma in situ (DCIS) as a "mammographic disease" consisting

of nonpalpable, noninvasive microcalcifications generally measuring 8 mm. Before the use of mammography, these lesions went undetected.

Dr Lagios stated that mastectomy may be considered for patients with DCIS if the lesions are multicentric, if the lesions increase in size on sequential mammographic examinations, or if there is risk of nondetection of further cancerous development. Lumpectomy can be performed if the DCIS has free margins, if the lesions are less than 25 mm in size, if complete excision is possible, and if the patient is motivated to comply with close follow-up. Lumpectomy is combined routinely with radiation therapy in some centers, while other centers use radiation therapy only when the DCIS recurs.

Paul P. Carbone, MD, professor of human oncology and medicine and director of the Division of Clinical Oncology, Wisconsin Clinical Cancer Center, Madison, explained the use of tamoxifen, chemotherapy, and ovarian ablation as mainstays of adjuvant treatment for decreasing the risk of recurrence and mortality in women with breast cancer. Women at low risk for recurrence (eg, those with negative lymph nodes and noninfiltrating small tumors) may not require adjuvant treatment, Dr Carbone stated. Tamoxifen is recommended for women in the medium-risk category (even those with negative lymph nodes), and chemotherapy and/or tamoxifen are used for higher-risk patients. Ovarian ablation generally is reserved for women who are more than 50 years of age.

Tamoxifen also is being studied as an agent to prevent breast cancer. Because of its combined estrogen and antiestrogen effects, tamoxifen has been demonstrated to decrease serum cholesterol and increase bone density, thereby allaying concerns of increased heart disease and osteoporosis in women taking this medication.

Cancers in Special Populations

This postgraduate course focused on the impact of cancer on special populations and the influence of ethnic, racial, cultural, and socioeconomic differences on cancer incidence, mortality, and survival. Sessions were devoted to major cancers in ethnic groups, cancer and socioeconomic status, survival rate differences between blacks and whites, cancer in selected religious groups, cancer in patients with AIDS, and future directions in defining and addressing the cancer burden in special populations.

Harold P. Freeman, MD, FACS, director of surgery, Harlem Hospital Center, New York City, related data that associate race, ethnicity, and socioeconomic status with the likelihood of developing and surviving cancer. Black Americans have a higher incidence, greater mortality, and decreased survival rates from cancer than do other groups in the United States, but economic status more than race appears to determine who develops and dies of cancer. Survival rates appear to be worse, as a rule, in blacks and low-income groups of both races.

LaSalle D. Leffall, Jr, MD, FACS, the Charles R. Drew professor and chairman of the Department of Surgery, Howard University, Washington, DC, described the development of the ACS statistical database on cancer. The National Cancer Data Base (NCDB) grew out of the ACS' Commission on Cancer Patient Care Evaluation System with major support from the American Cancer Society. The NCDB gathers data on cancer diagnoses, treatments, and outcomes from existing tumor registries and is able to focus on special populations. One finding is that socioeconomic status is not a factor in cancers with poor overall survival rates (eg, pancreatic, esophageal), unlike cancers with available cure modalities (eg, breast cancer).

Claude H. Organ, Jr, MD, FACS, professor and chairman of the Department of Surgery, University of California School of Medicine, Oakland, discussed the surgeon's role in caring for uninsured and underinsured patients with cancer. Dr Organ challenged physicians to reflect on the contribution made by indigent patients to their surgical training. Physicians in the United States contributed $6.8 billion in free care in 1988, said Dr Organ, yet some surgeons' offices are reluctant to schedule uninsured patients. His question to other surgeons: "Have you

done your fair share?"

Violence, Gunshot Wound Epidemic

Three factors have contributed to the recent increase in violent crime and murder in the United States: drug addiction; readily available, highly sophisticated, high-powered weapons; and the rise in the number of youths who join violent gangs. The presenters, physicians associated with Level 1 trauma centers in Chicago, have observed a 25% increase in the number of patients with multiple gunshot wounds in the past decade. The victims require extensive surgical intervention for multiple organ injuries and lengthy stays in intensive care units and place an extreme financial burden on trauma centers.

W. Peter Geis, MD, FACS, emergency department staff physician, and Louis G. Fernandez, MD, trauma surgeon, both at Lutheran General Hospital, Chicago; John A. Barrett, MD, associate professor of surgery, Cook County Hospital, Chicago; and Richard J. Fantus, MD, FACS, assistant professor of surgery, Illinois Masonic Medical Center, Chicago, discussed the gunshot wound epidemic sweeping America. This violence is not confined to the inner cities, the panel members emphasized. Gangs are fanning out seeking safer territories in the suburbs. In the inner cities, children join gangs for survival and economic reasons; suburban children, by contrast, are attracted to the ritualism and sense of belonging associated with gang membership. In both inner cities and suburbs, children are victims of violence desensitization.

The solutions to this problem, the panel members stated, are threefold: handgun control, a position supported by the American College of Surgeons; behavior modification, with parents diverting their children away from violence and into more wholesome, healthful ways of living; and adequate funding for trauma centers that care for the victims of this epidemic.

Surgical Treatment of Tuberculosis

Marvin Pomerantz, MD, FACS, associate professor of surgery, the University of Colorado Health Sciences Center, Denver, described the resurgence of tuberculosis (TB) in the United States. In 1991, more than 26,000 cases of TB were reported. Of even greater concern, Dr Pomerantz stated, is the 9% incidence of causative organisms that are resistant to many of the anti-TB medications.

Dr Pomerantz attributed the rise in TB infections to

- the change in immigration patterns,
- the airborne spread of TB from immunodeficient patients,
- complacency in the medical profession about the unexpected resurgence of the disease,
- poor patient compliance with medication therapy,
- problems of drug abuse and homelessness,
- lack of new medications available to treat the disease, and
- the presence of TB in nursing home patients who were exposed earlier in life and whose immune systems begin to fail with age, thus allowing the TB to become active.

Surgery is reserved for patients in whom medical treatment fails, for those with localized disease, and for those whose pulmonary reserves are adequate to tolerate resection. Surgical resection of the tuberculous lung removes the bulk of the infection, with the medications clearing the remaining mycobacterium. Combined with medication, surgery can provide a 90% cure rate for TB.

Resection of lung tissue ravaged by TB is complicated by adhesion of the lung to the pleura, inflammation, bleeding, and scarring problems. Tuberculous cavities also may

Dr Pomerantz discusses the TB epidemic.

erode into the chest wall.

Viruses in the OR

The risks of surgical personnel contracting bloodborne viruses from patients depends on the odds of operating on an infected patient, the risk of percutaneous injury during surgery, the volume of blood transmitted, and the concentration of the virus in the patient's blood, said Richard J. Howard, MD, FACS, professor in the Department of Surgery, University of Florida Health Sciences Center, Gainesville. Hepatitis B and C, not HIV, are the real risks, because they are more transmissible and more common in the population. Hepatitis B infects 12,000 health care workers per year. Two hundred health care workers die of hepatitis B every year, yet only 40% of surgeons have received the protective vaccine.

By practicing double gloving, wearing gowns that offer improved barriers, avoiding recapping hollow needles and handling suture needles, and following universal precautions, surgical team members can reduce their risk of exposure, explained Gordon L. Telford, MD, FACS, associate professor of surgery, Medical College of Wisconsin, Milwaukee. Other precautions include limiting the number of personnel in the OR, using experienced personnel only, discussing an injury prevention plan before starting a case, and always wearing eye protection.

Adherence to these recommendations does not completely eliminate the risk of bloodborne viral transmission, warned Samuel E. Wilson, MD, FACS, associate professor of surgery, University of California, Irvine. Postexposure protocols must include recognition that exposure has occurred, assessment of the severity and duration of contact, administration of first aid measures to wash and disinfect the skin, evaluation of the source patient's hepatitis and HIV statuses, and prompt provision of chemoprophylactic treatment.

Teaching Art, Humanism of Medicine

The ACS Committee on Surgical Education in Medical Schools sponsored a panel discussion on humanistic medical training. Martha Weinman-Lear, author of *Heart Sounds*, a book that documents the experiences when her late physician husband suffered a massive myocardial infarction, decried the lack of humanism in medicine.

Medical school graduates perform with cool efficiency and provide technically superb care, but the caring side is lacking, maintains Weinman-Lear. She related her husband's experience of feeling not like a person but like an impersonal, acute case. Physicians were shadowy, detached figures in her husband's world, whereas nurses were a constant presence, central to his life and well-being. Weinman-Lear also spoke of the power of intimidation in teaching hospitals. She believes it emanates from the top.

Trying to change this outcome, 98 of 126 accredited medical schools now have required nonclinical courses that teach the human predicament. These courses, described Kathryn Hunter, PhD, associate professor in the Division of Ethics and Human Values, Northwestern University, Evanston, Ill, teach physicians what it is like to be a patient and teach them that medicine is a human activity that uses high technology tools. The goal of these courses is to make a difference in medical students' attitudes and produce compassionate, humanistic physicians.

Dr Hanlon *(left)*, Weinman-Lear, and Dr Hunter discuss humanism in medicine.

Many medical schools have begun selecting students who demonstrate a natural tendency for caring and are attempting to use medical training to enhance this natural tendency, stated C. Rollins Hanlon, MD, FACS, ACS executive consultant. The "cynicism index," however, increases by the fourth year of medical school as students succumb to the routinization of their training, he explained. Dr Hanlon also attributed this dehumanizing perspective to third-party payers who view patients as customers. He believes that surgeons can teach ethical and humanistic values by example and attitude in their dealings with patients.

New Technology and the Surgical Team

The ACS/AORN Committee on Operating Room Environment discussed technology in the OR. Proper selection of new technology is the key to staying abreast of the new developments while conserving limited resources, stated Henry C. Alder, MS, MBA, director of the clinical services and technology division, American Hospital Association, Chicago. To assess the need for new technology, the Hospital Association of New York developed the Medical Technology Assessment Model for Informed Decision Making, consisting of seven components:

- medical assessment;
- community needs assessment;
- assessment of the facility's resources, mission, and personnel;
- vendor and equipment assessment;
- examination of options, features, and support;
- financial assessment (ie, examining costs versus benefits);
- integration of assessment data to decide on purchase, lease, or collaboration with other facilities; and, most importantly,
- a planned re-evaluation that examines patient outcomes, frequency of use, assessment of the worth of the technology, and questions about replacing the technology.

Dr Ponsky *(left)*, and Alder discuss needs assessment and cost benefit analysis of new technology.

Arlen D. Meyers, MD, FACS, chief of otolaryngology, Veterans Administration Hospital, Denver, cautioned hospitals to consider five factors before purchasing a new laser: the predictable patterns of diffusion of innovations, the scarcity of valid scientific data to substantiate value added by new lasers, purchasing models, changes in health care finance that demand accountability and technological surveillance, and productivity. Purchasing models, Dr Meyers said, should examine financial return on investment and analyze the market and the medical benefit accrued by having a new laser. Productivity and value should be stressed in any purchasing decision.

Jeffrey L. Ponsky, MD, FACS, professor of surgery, Case Western University, Cleveland, described the challenge hospitals face when fixed and variable costs of operation, both direct and indirect, increase at the same time revenue is diminishing through competition and managed health care restrictions. Possible solutions to these problems, Dr Ponsky said, are conducting a cost benefit analysis of every item purchased, doing outcome studies, requesting industry to design cost-saving technology, or involving the government to a greater extent in health care.

When purchasing a product or technology, Dr Ponsky said, a hospital should look at return on the investment, using a payback period, the average rate of return on the initial investment, the internal rate of return, and

Dr Meyers *(left)* discusses productivity of lasers. Dr Reeder describes nursing's role in OR technology.

the net present value as tools to assess the overall return on investment. Examining the inventory of expensive items, such as prosthetic implants, is another consideration. Hospitals can purchase some of these items on a consignment basis or insist on a "just-in-time" inventory arrangement with vendors.

Jean M. Reeder, RN, PhD, CNOR, LTC, US Army Nurse Corps, chief of nursing research services, Walter Reed Army Medical Center, Washington, DC, described nursing's role in OR technology. Nurses must

- understand the principles of physics and electrical safety,
- learn to operate and maintain sophisticated devices,
- orient staff and surgeons to new technology using a planned learning approach, and
- assess and troubleshoot machinery malfunctions.

To care for the new technology, Dr Reeder said, nurses must follow manufacturers' guidelines when using the equipment, maintain a central file of instructions, comply with medical device reporting requirements, prevent misuse of the equipment, monitor privileging associated with the use of new technology, provide mandatory inservice education on new devices, and evaluate the effectiveness of new technology. Nurse managers must conduct cost benefit analyses of the new technology, examine staff and patient safety issues, and plan for changes in roles and staffing requirements that evolve with the introduction of new technology to the OR. Most importantly, nurses must be involved in the decision-making process when new technology is being considered, participating in evaluation of prototypes, supporting clinical trials, and evaluating purchase or lease agreements.

Fetal Surgery

The performance of open fetal surgery is justified, stated N. Scott Adzick, MD, FACS, assistant professor, University of California School of Medicine, San Francisco, if there is a poor prognosis without intervention, if the procedure has been proven efficacious in animal models, and if the surgical technique has been perfected in primate models. Fetal surgery is being performed in several centers across the country to correct congenital cystic adenomatoid malformations, sacrococcygeal teratomas, and urethral obstructions. The National Institutes of Health has funded a clinical trial that will examine the need for this intervention in the correction of severe diaphragmatic hernias.

These new options present ethical dilemmas for mothers and fetuses, explained Francis A. Chervenak, MD, associate professor of obstetrics and gynecology, Cornell University Medical College, New York City. Maternal and fetal concepts must be balanced when deciding about fetal surgery. Aggressive surgical management of the viable fetus is based on low mortality risk to the mother with potential benefit to the fetus.

Michael R. Harrison, MD, FACS, professor of surgery, University of California, San Francisco, showed a film of a fetal surgical procedure. Dr Harrison stated that with laparoscopic endoscopic surgery, IV access to the fetus via placental vessels, and safe hysterotomy techniques, premature labor is the remaining barrier to successful fetal surgery. Still to be answered is the question about the cost effectiveness of fetal surgery for any particular disease.

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