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**Coronation Pavilion**

Also used as a bandstand, the Coronation Pavilion was where King Kalakaua was crowned.
Editorial

Norman Goldstein MD
Editor

WORDS, WORDS, WORDS

At the time Hamlet was written, Shakespeare had 20,000 words available to express all through the English language. When President Lincoln made his famous, concise Gettysburg address, there were 114,000 English words from which to choose. Today we can find 600,000 words defined in Webster's Dictionary. When we add medical terminology and accepted words from other languages, our options have expanded forty fold since Shakespeare's time.

The late Dr. Harry L. Arnold, HMJ Editor for 41 years, was expert at using proper vocabulary. Some of my fondest controversial medical discussions appeared in print between Harry and the late NYU Professor of Dermatology, Dr. Morris Leider. It was Morris who called me the Semitic Semanticist (considered an honor, coming from him).

To communicate effectively, we often simplify our spoken language through idioms and contractions. So, instead of saying, "It is not efficacious to indoctrinate a superannuated canine with innovative maneuvers", we remark, "You can't teach an old dog new tricks." American shorthand speech reduces the phrase, "we need to dimensionalize this management initiative" to "Let's make a plan".

Simply put, let's make a plan to:
1. Keep sentences short
2. Pick simple words over complex ones
3. Choose familiar words instead of obscure ones
4. Avoid unnecessary words
5. Put action in our verbs
6. Write the way we talk
7. Use terminology that our patients can picture
8. Tie in with our patients' experience
9. Make full use of a variety of words
10. Write and speak to express, not impress


Hepatitis C - Molecular Treatments and Liver Transplantation

The well designed study by Naoky C.S. Tsai, MD and Associates, "A Novel Treatment of Patients with Chronic Hepatitis C" is an example of the future of medicine. Recombinant human Granulocyte Macrophage Colony-Stimulating-Factor will undoubtedly be used for other infections and conditions in the near future. As was evidenced at the recent "Genetics and Molecular Biology - From Discovery to Practice" seminar sponsored by the Queen's Medical Center and the Ohio State University (Feb. 22-24, 1999), the age of Molecular Biology is here now, and physicians must keep up with this exciting new field of medicine.

Hepatitis C was the main reason for the liver transplantations in Linda L. Wong MD et al's review. Hawaii's first liver transplant was reported in our Special Issue on Organ Transplantation five years ago by Dr. Wong and associates. They herein report on a total of 21 transplants, 20 currently alive.

Mahalo to Hawaii's pioneers in medicine and surgery, Naoky, Linda and their associates.

References
1. Tsai, N.C.S. et al "A Novel Treatment of Patients with Chronic Hepatitis C"
3. Wong, L.L. et al "Liver Transplantation in Hawaii: The Initial Five Years"

Special Contribution

Demanding Compliance with Living Wills
From the Honolulu Star-Bulletin, February 23, 1999

A.A. Smyser
Contributing Editor, Honolulu Star-Bulletin

Bill Perry's wife Pat, aged 88, as he is, looked up from a gurney at Queen's Hospital Emergency Room and told him, "I'm in horrible pain. Let me die."

In the dark of the morning soon after 5 a.m. on Dec. 31 she had been hit by a car while going to get the morning newspaper out of their mailbox in the Kahaluu area. He is a late sleeper and didn't know about it until a neighbor woke him with the news.

She was still on the street being tended by paramedics who came promptly. Perry followed the ambulance in his car. On the subject of death, Pat and Bill understood each other. They had plans for killing themselves when it seemed appropriate.

Bill knew his wife meant it when she asked to be allowed to die. He was able to get her living will faxed to the emergency room from Kaiser Koolau Clinic. A final paragraph gave him power of attorney to act for her.

He said he told the emergency personnel to get her out of pain or let her die. They said she wasn't terminal and that pain medication had to be withheld until they learned whether there was internal bleeding.

Then he did what he says he wouldn't do now - signed a form allowing surgery on her broken leg with bones protruding through the skin in order to get her pain relief.

Next time he saw her was in intensive care - unconscious and hooked up to an array of tubes and piping intended for life-saving efforts neither he nor she wanted.

When he asked to have the tubes disconnected he was told by a physician that would be euthanasia or murder.

The physician said it wasn't possible, even though Perry had his wife's living will and power of attorney and requested it. Even though friends at a hospital family conference, including their minister, supported his request. Even though their son, newly arrived from the mainland, supported it.

Finally after a second family conference following the arrival of
their daughter from the East Coast, the physician assented to see if Patricia Perry could breathe on her own without a respirator. This was Jan. 6, and she could. But the next day she died.

Bill, who had been willing to let her bleed to death a week earlier, got a bill for 18 pints of blood instead.

Bill now is on a crusade. He is outraged. He told his story at a state House of Representatives Health Committee hearing and will retell it wherever he thinks he can do some good. His documentation includes the bill for blood, the living will, the death certificate and the police report on how she was hit by a car whose 18-year-old had been trying to clear leaves from his windshield.

People in the Death With Dignity movement say William Perry is far from alone. Living wills regularly are ignored. Attorney Jeffrey Crabtree volunteered over 2,000 hours to draft living will legislation and fight for its enactment. His interest was spurred by his experience with his mother in a years-long coma after a hiking fall.

Crabtree says there are a lot of cases like the Perrys’. He alone is aware of a half dozen in the last few months.

The Star-Bulletin on Jan. 29 published a letter from JoAnn Goebert, whose late husband was both a physician and attorney. He lectured and wrote on the subject of living wills. He had a very specific living will, she said, yet compliance was delayed. Often a single word such as “reasonable” can create a question or doubt, she found.

Nationally, Hemlock Society U.S.A. is encouraging the formation of volunteer committees to help achieve compliance with living wills. The idea of suing those who don’t comply is drawing favorable reactions.

A.A. Smyser is the Star-Bulletin’s contributing editor. His column runs Tuesday and Thursday.

Editor’s note:

Mahalo to the Honolulu Star-Bulletin for permission to reprint another “Hawaii’s World” column from the pen of Contributing Editor A.A. “Bud” Smyser. No person in Hawaii has done more than he to support the efforts of both Hospice and Hemlock to assure the rights for each of us to choose death with dignity; the right to elect not only compassionate care, but the absence of pain in our transition from life to death.

Special Contribution

The Role of the Physician in Handicapped Parking

John A. Sheedy MD

For several years Handicapped Parking has been available in all of the public parking areas throughout the City and County of Honolulu, as well as the neighbor islands in accordance with the Hawaii Revised Statutes (Section 291.54). Similar provisions have also been enacted throughout the United States and reciprocity exists between states.

Handicapped is defined as having a medical condition that limits mobility to 200 feet without stopping to rest due to an arthritic, neurological, or orthopedic disorder. In another disorder, individuals that meet the Class III or IV category for cardiac disease or those that have severe respiratory disorder such that the forced expired volume, one second (FEV1) is less than one liter, or have an oxygen level (P02) of less than 60 mm Hg, and requires the use portable oxygen. The final category involves those that have prosthetic, extremity devices, braces, crutches, walkers, wheelchairs, canes or the help of another person with ambulation.

Currently there are 22,000 individuals that have been certified by their physicians as meeting the above criteria for either temporary (up to six months or the red placard) or the long term (five year or blue placard) disabled parking category. Each individual is issued a laminated card to accompany the placard. At present there are 8,000 stalls that have been designated with the characteristic white wheelchair on a blue field and also marked with an upright visible sign.

Since the presence of handicapped stalls gives the handicapped a distinct advantage in parking near the entrance to most buildings and stores, it was natural that non-handicapped individuals would take advantage of these spaces. Many complaints were registered to the Honolulu Police Department, but checking these spaces was time consuming and was given a low priority by the HPD. After considerable discussion by the City Council and the Legislature, the idea of using volunteers was suggested. The Oahu Veterans Council was approached to provide volunteers. The present program was established by the HPD to provide training and equipment for these individuals. Currently there are twenty-five enforcement officers, most of whom will be completing two years of service in the near future. The individuals usually work in pairs and are expected to patrol selected areas at least two hours per week. Volunteer Officers are not paid, but may claim mileage when on duty. Volunteers are visible because they have been issued a dark blue vest with a Handicap logo as well as a laminated card with picture indicating their status. Volunteers are expected to be courteous, correct and not to engage motorists in discussion or argumentation. Fines that are imposed are $150.00 if paid within ten days and after that a judgment of $160.00 or more may be imposed.

As physicians you are the key to making a determination whether an individual is handicapped. The criteria are sufficiently clear that only those who meet these criteria should be so designated. If you have any questions, I may be reached at 692-8109.

Editor’s Note:

John Sheedy MD is a medical consultant to the State of Hawaii, Department of Human Services. He is also a Fellow of the American Academy of Physicians, and past president of the Hawaii Society of Internal Medicine.

With the establishment of handicapped parking permits and reserved parking, Dr. Sheedy was commissioned as a Special Officer for Handicapped Parking with the Honolulu Police Department.

Thank you for this Special Contribution to our Journal, Dr. Sheedy.
A year ago, a STROKE left John Monteiro with barely enough strength to lift one arm. Let alone Danielle, his three-year-old daughter. THANKS in part to RESEARCH made possible by over $1.2 billion in support from the American Heart Association, today John holds Danielle with no effort at all. And he lifts the spirits of others as a VOLUNTEER with the American Heart Association's Stroke Outreach Program. John is proof that research SAVES LIVES. And to us, nothing could be worth more. For more information call 1-800-AHA-USA1.

American Heart Association
Fighting Heart Disease and Stroke
Letter to the Editor

Bayanihan Clinic Without Walls Project

The Bayanihan Clinic Without Walls is a community-based immigrant health services which was initiated by the Philippine Medical Association of Hawaii (PMAH) on April 17, 1997. The President of PMAH was Dr. Charlie Sonido. This was designed to provide free medical services to newly-arrived immigrants to the State. These immigrants are: 1). Those who arrived after August 22, 1996, who were excluded from MedQuest Services, 2). Those without medical insurance and 3). Those who are financially indigent (fall under the Medicaid guidelines). The project makes use of a single health needs/evaluation and referral system, an activity of the Lanakila Easy Access Project (LEAP) under the Office of Bilingual Health Services. State Department of Health. This program is located at Lanakila Health Center with bilingual /bicultural staffs. The immigrants, who need health services which are not provided by the State Department of Health are referred to the volunteer physicians at their private offices. The majority of the immigrants to Hawaii are from the Asian countries and the Pacific Islands.

In March 1997, flyers were sent to physicians requesting their assistance to volunteer their services. The initial response was very positive. There were 30 physicians representing eight specialties and various ethnicities, such as, Chinese, Filipino and Caucasian. The project was featured in an article of the Hawaii Filipino Chronicle on March 16, 1997 issue.

On April 17, 1997, PMAH initiated the project. In October 1997, the project included two volunteer dentists to assist immigrants with dental problems. From April 17 to December 1997, the volunteer physicians and dentists provided needed health services to 319 recently-arrived immigrants.

In 1998, the volunteer physicians and dentists increased to 49 representing 13 specialties and additional ethnicities, such as, Vietnamese, Egyptian and Samoan. On October 30, 1998, Dr. Ruben Guerrero, President, PMAH, and Dr. Lawrence Miike, Director, State Department of Health acknowledged the valuable humanitarian volunteer services of the physicians and dentists at a recognition dinner held at Hale Koa Hotel. Certificates of Appreciation were awarded. Following is our current roster.

During the 1998 calendar year, there were 438 immigrants who were referred to the volunteer physicians and dentists. The Bayanihan Clinic Without Walls is now a non-profit corporation. We are looking forward for the participation of more volunteer physicians. This project is a demonstration of one of the models that show how medicine and public health collaboration can respond to the health needs of a vulnerable segment of our population in need.

Your readers may call me at 832-5685, for further information.

Herita A. Yulo, MD, MPH, CHES, MS
Program Manager/Director

BAYANIHAN CLINIC WITHOUT WALLS VOLUNTEER PHYSICIANS

GENERAL/FAMILY PRACTICE
Ben Galindo, M.D.
William Fruean, M.D.
Ramon Pajarillo, M.D.
Russell Tacata, M.D.
Hilarion Dayaoan, M.D.
Kiliem Nguyen, M.D.
Benjamin Gozun, III, M.D.

INTERNAL MEDICINE
Charlie Sonido, M.D.
Danilo Ablan, M.D.
Erinda Cachola, M.D.
Fortunato Elizaga, M.D.
Curazon Hobbs, M.D.
Danilo Canete, M.D.
Aurora Mariani, M.D.
Sorbera Guillermo, M.D.
Reuben Guerrero, M.D. (Oncology)
Nicanor Joaquin, M.D.
Ricardo Ridao, M.D.
Leon Garcia, M.D.
Elmer Baysa, M.D.
Magdy Mettias, M.D. (IM/Pulmonary)
Tyrone Dang, M.D.
Maria Ilar, M.D.
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Emma B. Avilla, M.D.

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Gerard Derrick, M.D.

UROLOGY
Antonio Tan, M.D.

ORTHOPEDIC SURGERY
Salvador Cecilio, M.D.
Gerard Derrick, M.D.

ANESTHESIOLOGY
Efren Baria, M.D.

PHYSICAL MEDICINE (PAIN MANAGEMENT)
Robert Hyman, M.D.

RADIOLOGY
Romeo Pineda, M.D.

DENTAL
Neal Timon, D.D.S (Peds)
Rosemarie Mauricio-Molina, D.D.S (Adult)

OPHTHALMOLOGY
George Camara, M.D.

NEUROLOGY
Sonido, M.D.

PSYCHIATRY
Danilo Ponce, M.D.

HAWAII MEDICAL JOURNAL, VOL. 58, APRIL 1999
The National Cancer Institute has free booklets about breast cancer screening. To order these publications, call NCI's Cancer Information Service at 1-800-4-CANCER (1-800-422-6237). Persons with TTY equipment, dial 1-800-332-8615.

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Medical School Hotline

The Roles of Athletic Trainers and Physical Therapists in Sports Medicine

Andrew W. Nichols MD
Associate Professor, Department of Family Practice and Community Health, John A. Burns School of Medicine, University of Hawaii at Manoa; Team Physician, University of Hawaii at Manoa Department of Athletics

Sports medicine and athletic health care is ideally practiced using a multidisciplinary team care approach. In addition to physicians, who are often sports medicine fellowship-trained specialists in family practice, orthopaedic surgery, internal medicine, or pediatrics, members of the sports medicine team include athletic trainers, physical therapists, exercise physiologists, psychologists, dentists, podiatrists, and alternative/complementary medicine practitioners.

A discussion of the history of sports medicine and physician educational opportunities in sports medicine previously appeared in this publication. The current article describes the similarities and differences between athletic trainers and physical therapists and the synergistic roles they can play with physicians in the delivery of athletic health care.

Athletic Trainers

Of the 22,700 National Athletic Trainers’ Association (NATA) members, 92% are NATA-certified and 44% are female. In 1990, the AMA recognized athletic training as an allied health profession, and in June 1998, adopted a policy calling for NATA-certified athletic trainers (ATCs) in all high school athletic programs. Educational standards to achieve certification as an athletic trainer, which are set by the NATA Board of Certification, include a minimum of a Bachelor’s degree, extensive appropriately supervised clinical affiliations with athletic teams, and successful completion of written and oral examinations. The athletic training educational curriculum includes: 1) athletic injury prevention; 2) recognition, evaluation, and immediate care of athletic injuries; 3) rehabilitation and reconditioning of athletic injuries; 4) health care administration; and 5) professional development and responsibilities.

In 1997, the state of Hawaii demonstrated national leadership in recognizing the importance of athletic trainers by being the first state to place full-time ATCs in all public high schools. A 1991 survey by Buxton and colleagues found that only 8% of state high schools (all were private schools) employed full-time certified athletic trainers. Athletic health care in the public schools was typically delivered by non-certified athletic trainers and coaches, many of whom lacked training in even CPR and basic first aid. The survey findings prompted the Hawaii Interscholastic Athletic Directors’ Association (HIADA) to launch a campaign to place certified athletic trainers in all public high schools. The HIADA lobbied the Hawaii state legislature, which agreed to fund $371,000 to initiate a pilot program placing ATCs in 15 of Hawaii’s 40 public high schools for the 1993-94 school year. Expansion of the program to supply ATCs to the remaining high schools became threatened however, due to the limited tax revenues which resulted from a state economic downturn. In 1997, the Hawaii Athletic Trainers’ Association (HATA) Public Relations Committee thus spearheaded a campaign to rekindle interest in the growth of athletic training public high school positions. Lobbying efforts included HATA members sharing national and state injury statistics as well as providing the financial breakdown of potential health care savings brought on by athletic trainers, and high school athletic directors describing pending and potential lawsuits based upon inappropriate athletic health care. The Hawaii Medical Association Sports Medicine Committee also testified in support of the bill. The collaborative efforts proved successful, as the state legislature appropriated funding for full-time certified athletic trainers in all Hawaii public high schools for the 1997-98 school year.

The University of Hawaii at Manoa (UHM) offers a bachelor’s degree level athletic training education program, directed by Iris Kimura, PhD, ATC, PT, in the College of Education’s Department of Kinesiology and Leisure Science (formerly HPER). Athletic training students may currently become certified as ATCs by completing either a NATA-accredited “curriculum-based” program or a non-accredited “internship-based” program. Both pathways involve classroom study and supervised association with athletic teams, with the accredited curriculum programs requiring relatively more classroom study and less clinical time than the traditional internship route. After 2003, only NATA-accredited curriculum programs will be recognized for certification. The UHM athletic training program is currently seeking NATA-accreditation for its Bachelor’s degree program and the addition of a Master’s level program. Most of the state high school athletic training positions have been filled and the majority are occupied by graduates of UHM’s athletic training education program.

Physical Therapists

Physical therapy (PT) as a profession grew out of the need for PT services during the 1940s and 1950s due to World War II and the great polio epidemic. The American Physical Therapy Association (APTA), which was established early in the century, currently has more than 75,000 members. The minimal educational requirement for PT certification includes a Bachelor’s degree, but increasingly many PTs are choosing to receive Master’s degrees. Of the 180 colleges and universities in the United States which offer APTA-accredited educational programs in physical therapy, none is located in the state of Hawaii. In the early 1990s, the John A. Burns School of Medicine explored the possibility of establishing a PT program at UHM, but due to budget restrictions the program failed to emerge. UH Kapiolani Community College currently offers a two-year physical therapy assistant (PTA) program.

Differences Between Athletic Trainers and Physical Therapists

A simple description of the difference between an ATC and a PT is that ATCs are “emergency athletic care specialists” and PTs are “rehabilitation specialists.” The ATC’s educational training emphasizes sports medicine, orthopaedics, and athletic care, while the PT is trained as a rehabilitation generalist who is exposed to all sorts of physical medicine topics including neurologic injury, sports medicine and orthopaedics, prosthetics, community health, and industrial/physical medicine. The broad training of a PT may result in a
relatively limited sports medicine education experience. In recognition of the desires of some PTs to study certain areas further, the APTA grants subspecializations in fields such as sports PT and neurologic PT.

Another important difference between ATCs and PTs has to do with "access" to patients. Approximately half of the states allow physical therapists to have direct access to patients, meaning that a PT does not need a physician's referral to treat and evaluate a patient. Hawaii is among the states which do require physician referrals for PTs to initiate treatment. On the other hand, ATCs—especially those involved with athletic team care—often have direct access to patients, since ATCs are frequently the first person to evaluate an injured or ill athlete. Consequently, the ATC is given the responsibility of determining whether a physician referral is indicated. Unlike PTs however, ATCs are not permitted to formulate individual treatment plans for patients.

Professional licensure requirements also differ significantly between the two professions. PTs are licensed in all states, while ATCs may become licensed in only half of the states. With the exception of Texas, states which offer licensure for ATCs, utilize NATA-certification as a requirement to achieve licensure. Hawaii currently offers no licensure for ATCs.

Perhaps the most profound contrast between PTs and ATCs involves relative abilities to independently bill third-party health insurance payers for professional services provided. PTs may bill for their services in all states. ATCs have attained such financial reimbursement capabilities in only a few states—all of which require ATC licensure. The NATA is actively attempting to achieve professional status and third-party billing parity for its members with that of PTs by raising athletic training academic standards and encouraging state ATC licensure.

Job opportunities also differ for ATCs and PTs. Approximately 30% of PTs work in hospital settings, while the rest work in such outpatient facilities as private PT offices, community health centers, sports facilities, corporate/industrial health centers, research centers, rehabilitation centers, nursing homes, and home health agencies. ATCs rarely work in hospital settings and have relatively few opportunities for self-employment. Nationwide, the majority of newly trained ATCs are hired by orthopaedic sports medicine clinics where they may participate in sports injury evaluation, rehabilitation, and athletic team care. Many other ATCs are employed by high schools, colleges, and professional sports teams.

References:
2. Buxton et al. Improving sports health care for high school athletes. Personal communication, 1998. (Ed: I'm checking on this, as it may have been published.)

POSTPONEMENT OF CLOSING DATE FOR RECEIPT OF PROPOSALS AND REVISIONS TO REQUEST FOR PROPOSALS

NOTICE is hereby given that the CLOSING DATE scheduled for 4:30 pm on April 5, 1999 by the Employees' Retirement System of the State of Hawaii, at 201 Merchant Street, Suite 1400, Honolulu, HI 96813, for Request for Proposals, No. ERS 99-02 for Competitive Sealed Proposals to be Chairperson and Members of the Medical Board of the Employees' Retirement System as advertised in the March 1999 issue of the Hawaii Medical Journal has been postponed to 4:30 pm May 14, 1999. Proposals received after this date will not be considered.

David Shimabukuro
Administrator
Employees' Retirement System
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A Novel Treatment of Patients with Chronic Hepatitis C

Naoky C.S. Tsai MD, Neil Shimoda MD, Linda Wong MD, Stanley Shimoda MD, Kimberly Goad RN, Herbert Yee, Miles Chen

Abstract:

**Objectives:** Interferon alpha-2b therapy for Chronic Hepatitis C patients has been unsatisfactory. Recombinant Granulocyte Macrophage Colony-Stimulating Factor has been shown to have anti-viral effects in vivo and in vitro via cytokines release. Recently its effects on chronic hepatitis B and possibly chronic hepatitis C were reported. We decided to conduct a pilot study to evaluate the anti-viral effects of recombinant human GM-CSF mono-therapy in patients with chronic hepatitis C and to assess its side effects.

**Methods:** A total of 10 patients (male/female: 5/5) (age: 34-60, mean: 45) seen in our center between 2/95 to 2/96 were randomly selected to receive recombinant human Granulocyte Macrophage Colony-Stimulating-Factor at 125 μg/m2 subcutaneously daily for two weeks followed by three times weekly for another 8 weeks. Biochemical (ALT) and viral (HCV-RNA) responses were measured prior to treatment and at weeks four and eight. Side effects were recorded.

**Results:** Six out of the ten patients treated had significant viral reduction but none became negative. Eight out of the ten patients treated showed biochemical improvement and three out of the eight had normalized liver enzymes. Age, sex, stage of the disease did not influence the response but there seems to be a tendency for patients with higher pre-treatment viral level to respond virally. Side effects are minimal and well-tolerated.

**Conclusion:** Recombinant human Granulocyte Macrophage Colony-Stimulating-Factor in the dose used has anti-viral effects in the majority of the chronic hepatitis C patients studied. Side effects are minimal and well tolerated. Further study with higher doses and longer duration is needed to prove its clinical efficacy in treating patients with chronic hepatitis C.

Introduction:

In the past few years since interferon alpha-2b (IFN) was licensed for treatment of some patients with chronic hepatitis C, it has become clear that standard IFN therapy (3 million units subcutaneously three times a week) produces a complete biochemical response in 50% of patients (normalization of ALT at the end of treatment); however, the majority of responders relapsed after termination of therapy. To improve these results, many therapies have been tried including retreatment with the same dose or escalating interferon dosage, iron depletion therapy, and prolonged interferon therapy, but the beneficial results have not yet been established.

Among the different groups of biological response modifiers, GM-CSF (Granulocyte Macrophage-Colony Stimulating Factor) is a hormone-like glycoprotein cytokine produced by activated T lymphocytes, endothelial cells and fibroblasts that stimulates the proliferation, maturation and function of hemopoietic cells, augments and modifies the immune system, and regulates the secretion of other cytokines which are involved in the immune response to viral hepatitis. Recently J. Martin et al. reported HBV-DNA level reduction with GM-CSF alone or in combination with interferon alfa-2b. Furthermore, in vitro studies of cytokine production by PBMC(peripheral blood mononuclear cells) during GM-CSF treatment revealed enhanced spontaneous production of other cytokines.

In the treatment of chronic hepatitis C, recombinant GM-CSF has been used mainly to rescue leukopenic patients during treatment with interferon alfa-2b. There has been no clinical study in the U.S. to investigate if recombinant GM-CSF by itself has any anti-viral effect against hepatitis C virus. Therefore we decided to conduct a pilot study treating chronic hepatitis C patients who failed previous interferon alfa-2b therapy with recombinant GM-CSF alone to observe if there is any anti-HCV effect and to assess its side effects.

Patients and Methods:

Ten patients (five males) with a mean age of 45 yr. (Range 34-60) who were seen in a tertiary center between 2/95 to 2/96 were selected to participate in this trial. The patient’s clinical characteristics can be seen in Table I. All patients had failed previous interferon therapy and were off interferon or other immunological therapy for at least six months and met the inclusion and exclusion criteria. The protocol was approved by the IRB of the institution. Consent forms were signed. After the initial screening visit, all participants received recombinant GM-CSF (manufactured by Immunex Co. Seattle, Washington) at 125 μg/m2 subcutaneously daily for two weeks followed by three times a week for another eight weeks. Biochemical (ALT) and viral response (b-DNA method from Chiron Inc. Summerville, California) were assessed prior to treatment and at week four and eight. Side effects were assessed in each follow-up visit and recorded.

Results:

Of the ten patients treated with GM-CSF, six had significant viral titer reduction during the first two weeks of daily subcutaneous injection. However, none had eradicated the virus. Eight out of the
ten treated showed ALT improvement and among them three had normalized ALT. The clinical data of all ten patients are shown in Table I. Three are genotype 1a, three type 1b, one type 2b and three untypable. Six patients had advanced liver disease and the remaining four had mild to moderate disease. Age, sex, stage of disease did not influence the response but there seems to be a tendency for patients with higher viral level to respond. Fig. I, Fig. Iia and Iib show mean HCV-RNA and ALT level of each patient respectively.

Side effects were minimal and well tolerated. The most common side effect was injection site irritation. Other side effects included flu-like symptoms (which were milder than that of interferon alpha 2-b) and general malaise. Two patients experience urticaria which responded to anti-histamine treatment. No cardiopulmonary side effects such as CHF or asthma attack were noted. Leukocytosis responses were universal and several patients had eosinophilia (up to 40% in one case with urticaria) but dose reduction was not needed.

**Discussion:**

Interferon therapy for chronic hepatitis C has been unsatisfactory in attaining sustained response in the majority of patients. Clearly enhancement of the response rate is needed. Of all the anti-viral therapies, interferons were the only agents shown to have anti-viral effect on hepatitis C virus. Ribavirin and Corticosteroids as monotherapy have been tested but without success in eradication of

<table>
<thead>
<tr>
<th>Patient</th>
<th>Sex</th>
<th>Age</th>
<th>Genotype</th>
<th>Histology</th>
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<tr>
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<td>CAH</td>
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<td>M</td>
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<td>?</td>
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<td>F</td>
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<td>CPH</td>
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<td>&lt;3.5</td>
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<tr>
<td>S.L.</td>
<td>F</td>
<td>60</td>
<td>1b</td>
<td>CPH</td>
<td>46.9</td>
</tr>
</tbody>
</table>

CAH = Chronic Active Hepatitis  
CPH = Chronic Persistent Hepatitis

Figure I.— HCV-RNA Level Changes During Treatment (x100,000 Copies/ml.) Patient's HCV-RNA level pre- and during GM-CSF therapy. No patient has eradicated HCV-RNA but there seems to be a downward trend in the level of HVC-RNA especially in the first four weeks of therapy when daily GM-CSF was administered. (Chiron version 1.0 Quantiplex method).
the virus. GM-CSF has been used to rescue patients with leukopenia on high dose interferon therapy but its efficacy as monotherapy for the treatment of chronic hepatitis C has not been tested. In this study we administered rhGM-CSF to ten patients who have failed previous interferon alpha 2-b treatment to study its anti-HCV effect and to assess side effects. The dosage given is low at 125 mcg/m2 subcutaneously. The therapy was well tolerated with no significant side effects. No dose reduction was needed and no patient withdrew from the study. The leukocytosis occurred as expected and eosinophilia was observed in two patients. Local injection site irritation was common but generally manageable. Other side effects such as flu-like symptoms were much milder compared to that of the interferon therapy these patients had experienced previously, even during the daily rhGM-CSF administration in the first two weeks of the trial.

The reduction in the viral RNA during the treatment was significant in the majority of the patients especially during the daily dosing period. ALT was also noted to have improved in eight of the ten patients with normalization in three patients. These effects may be due to cytokine production by the GM-CSF effect. GM-CSF has been shown to increase the liberation of TNF-alpha (Tumor Necrosis Factor Alpha), Interleukin-2, which themselves have potent anti-viral activity. 

In summary, the administration of rhGM-CSF in the doses used is safe and well tolerated. The treatment seems to exert an anti-viral effect on patients with chronic hepatitis C infection. Future studies with higher dosage and longer duration of therapy or in combination with interferon therapy are needed to prove its clinical efficacy as an alternative and adjuvant therapy for patients with chronic hepatitis C. GM-CSF could also play a role in the treatment of those patients with chronic hepatitis C who have significant leukopenia and were excluded from interferon therapy.

Acknowledgment: The authors would like to thank Dr. Rodney Williams for his idea and helpful criticism, to Mr. Peter Hsin and Ms. Sharon Lai for their technical assistance.

References:

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HAWAII MEDICAL JOURNAL, VOL 58, APRIL 1999
Liver Transplantation in Hawaii: The initial five years

Linda L. Wong MD, Alan H.S. Cheung MD, Whitney M. Limm MD, Naoky Tsai MD, Neal Shimoda MD, Kimberly Goad RN

Abstract
Twenty-one liver transplants have been performed in Hawaii in the initial five years. Hepatitis C was the most common reason for liver transplant. Twenty patients are currently alive, and 93.3% of patients survived one year. Of those one year post transplant, 60% have returned to work. Liver transplant can be performed in Hawaii with results comparable to mainland centers.

Methods and Materials
This is a retrospective review of patients who underwent liver transplant at St. Francis Medical Center from May 1993 to May 1998. Records were reviewed for demographic data, etiology of liver disease, status at the time of transplant, length of surgery, amount of blood transfused, length of intensive care unit (ICU) and hospital stay, complications and outcome. We also determined cold ischemic time (CIT), which is the length of time between aortic cross-clamp in the cadaveric donor and the time of revascularization of the liver in the recipient. Outcome was determined by patient and allograft survival, number of rejection episodes, recurrence of disease, need for retransplantation, and return to work.

We reviewed data on patients referred to our transplant center for liver transplant evaluation during this same time period. Reasons for not transplanting these patients at our center were noted.

We also reviewed demographic data on cadaveric donors for these transplant recipients. Aggregate data on donors during this 5-year period were also obtained from the Organ Donor Center of Hawaii, the official Organ Procurement Organization (OPO) for the state of Hawaii.

Results
Twenty-one liver transplants were performed at St. Francis Medical Center in the first five years since inception of the program in May 1993. There were 11 males and 10 females with a mean age of 52.0 years (range 39-62 years). In terms of race distribution, there were 7 Caucasians, 6 Japanese, 5 Filipinos, and one each for Chinese, Korean, and Hispanic-American extraction. Etiology of end-stage liver disease was predominantly Hepatitis C (13 of 21 patients). Other etiologies included alcoholic cirrhosis (3 patients), Hepatitis B (2 patients), autoimmune hepatitis (2 patients) and cryptogenic (1 patient). Two patients also had hepatocellular cancer at the time of transplant, in addition to their underlying disease. (Hepatitis B in one and Hepatitis C in the other).

Seventeen patients were waiting at home when called in for liver transplant. Four patients were in the hospital – 2 in the intensive care unit, and 2 on the general medical floor when a donor organ became available.

Mean operative time was 9.1 ± 2.3 hours (range 6-15.5 hours). Patients received a mean of 13.3 ± 18.0 units of packed red blood cells (PRBCs). The amount of blood transfused in the last 16 transplants was 6.2 ± 3.3 units. This may be multifactorial and may include the use of antifibrinolytic agents such as aprotinin given intravenously during these most recent 16 procedures. Mean ICU stay was 7.4 ± 11.4 days (range 1-49 days) with 11 patients remaining in the ICU for 3 days or less. Mean hospital stay was 18.0 ± 16.7 days (range 6-71 days) with 10 patients hospitalized for less than 10 days. (Hospital/ICU length of stay based on 20 patients, as one patient currently hospitalized)

Early complications which required return to the operating room within the first 30 days, include bleeding (2 patients) and bile leak requiring biliary reconstruction (2 patients). One patient also required return to the operating room after she accidentally removed her T-tube on post-operative day 4, and another patient required drainage of a mucocoele of the cystic duct stump.

Infectious complications in the initial hospitalization included Vancomycin-resistant enterococcal peritonitis in one patient and fungal line sepsis in a second patient. Two patient developed opportunistic infections during the post-transplant period. One of these patients developed a Herpes simplex viral infection manifested by skin lesions, fever, and mouth/pharynx ulcerations. This resolved with use of acyclovir and lowering of immunosuppression. A second patient developed a respiratory symptoms and a lung mass with needle biopsy yielding Candida albicans. This mass resolved with a course of fluconazole.

Two patients suffered cerebrovascular accidents 1.5 and 28 months post-transplant. One of these patients also sustained a femoral neck fracture shortly after the cerebrovascular accident. Both patients have recovered well with no noticeable residual deficits.

Thirteen patients underwent transplant for Hepatitis C. Of these, seven have had liver biopsies for elevated liver enzymes. Five of these demonstrated histologic evidence of recurrence. Immunosuppression has been lowered in these patients. One patient has been placed on interferon for histologic progression of hepatitis C, with evidence of early fibrosis. There has been no graft loss due to recurrent hepatitis C. Two patients with hepatitis B, have been followed closely for recurrence of disease. Hepatitis B immune
globulin has been administered prophylactically every 3-4 weeks to maintain a Hepatitis B surface antibody titer of greater than 300 mIU/ml. Patients have also been placed on lamivudine, a nucleoside analog which decreases the replication of the hepatitis B virus. Neither patient has demonstrated any evidence of recurrence of disease.

During this same time period, a total of 53 other patients were referred to our center for possible liver transplant evaluation. Six patients were evaluated and placed on the waiting list, but expired from complications of liver failure before a donor liver became available. Two patients were removed from the waiting list—one because the patient no longer desired transplant and the other due to alcohol recidivism after 2 years of abstinence. Ten patients were evaluated but decided to pursue transplant at mainland centers for various reasons. Twenty-three patients were not completely evaluated for either medical reasons (other severe underlying diseases, HIV positivity, or sepsis), psychosocial reasons (recent substance abuse, severe psychiatric problems) or financial reasons (insurance coverage contracted with mainland centers). Twelve patients did not pursue transplant evaluation any further despite physician referral and multiple attempts at contacting them.

Donor livers were obtained from the state of Hawaii only. No imported livers from the mainland were accepted during this time period. Mean donor age was 34.0 ± 15.2 years (range 12 to 55 years.) During this time period 41 livers were sent to mainland centers, because of inappropriate size or blood type for the potential recipients on our list. Several of these livers were of marginal quality (age >55 years, elevated liver tests, and/or high doses of vasopressors in the donor) and were not felt to be suitable at that time. Mean cold ischemia time was 388 ± 110 minutes (range 168-619 minutes).

Six patients experienced transplant rejection. Five of these patients improved with a high-dose intravenous steroid bolus (500-1000mg). The sixth patient required a course of OKT3 (monoclonal antibody). Of the 15 patients who are at least 1-year post transplant, 14 are alive and functioning well, for a one year survival of 93.3% (See figure 1). One patient died at 3 months from complications of portal vein thrombosis and sepsis. No patient has required retransplantation. Of these 15 patients, 9 (60%) are currently working at part-time or full-time jobs.

**Discussion**

Five years ago our group published an article in this journal on Hawaii’s first liver transplant. Since that time, the transplant program in Hawaii has continued to thrive and has demonstrated that liver transplants can be performed here with results comparable to other US transplant centers. Our 1 year patient/grant survival was 93.3% and nationwide, the 1 year patient and graft survival was 87.0% and 79.1%, respectively. One year survival by UNOS (United Network for Organ Sharing) status was 92.3%, 100%, and 50% for status 3, 2, and 1 respectively. This is compared to 84.0%, 77.1% and 67.1% for the national data. (Status 1 patients are waiting in the ICU, see below)

Liver transplantation has become a standardized treatment for end-stage liver disease. Surgeons have refined the operative procedure, and many new immunosuppressive drugs have helped minimize rejection. Other new advances include successful use of Hepatitis B immune globulin and nucleoside analogs, such as lamivudine to prevent recurrence of Hepatitis B.\(^2\) We have also begun to understand the appropriate use of liver transplant for malignancies. When done in patients with smaller size (<5 cm), and without lymphatic spread, vascular invasion, or multiple nodules, the prognosis is better. Adjuvant modalities such as chemoembolization, and percutaneous ethanol may be used to treat the tumor while waiting for the appropriate donor.\(^3\) These modalities may also prevent recurrence of cancer, but it is difficult to know —they may only be delaying the recurrence. Longer follow-up studies will be necessary.

We still need to find the appropriate treatment for recurrent Hepatitis C. Whether interferon and use of new antiviral agents will help has not been completely determined.\(^3\) Ultimately finding ways to treat Hepatitis C before progression to end-stage cirrhosis, will be the most beneficial.

The major problem facing all liver transplant programs, however, has been that of a limited supply of donor organs for the rapidly growing waiting list. Because of this, the transplant community continuously tries to improve the process of donor allocation and distribution in order to maximize use of this precious resource.

The indications for liver transplant continue to include irreversible advanced chronic liver disease, fulminant liver failure, metabolic liver diseases and certain neoplastic diseases. We continue to look for complications such as intractable ascites, variceal bleeding, encephalopathy, malnutrition, hepatorenal syndrome and recurrent spontaneous bacterial peritonitis as indications that a liver transplant will be needed soon. However, we are now unable to place a patient on the waiting list until specific criteria are met.

Listing criteria is based on the Childs-Turcotte-Pugh score (CTP score, see table 1). Each patient is assigned a score based on albumin, bilirubin, prothrombin time, encephalopathy, and ascites. The score is used to give each patient a status.

**Status 1:** Fulminant liver failure

**Status 2A:** CTP score ≥10 in ICU and have at least 1 of the following: acute variceal bleed, hepatorenal syndrome, refractory ascites, stage III/IV encephalopathy

---

**Figure 1:** Kaplan-Meier Survival Curve for liver transplant patients 1993-1998.

(HAWAII MEDICAL JOURNAL, VOL 58, APRIL 1999)
Patient cannot be listed as Status 2A if extrahepatic sepsis, high dose or 2 or more pressures, or irreversible multi-organ failure.

Status 2B: CTP score ≥10 or CTP score ≥7 and 1 of the following: acute variceal bleed, hepatorenal syndrome, spontaneous bacterial peritonitis, refractory ascites

Status 3: Patient requires continuous medical care, with CTP score ≥7

<table>
<thead>
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<th>Table 1: Summary of Data</th>
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<tr>
<td>Number of Patients</td>
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<td>M: F</td>
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<tr>
<td>Etiology</td>
</tr>
<tr>
<td>Hepatitis C</td>
</tr>
<tr>
<td>Alcohol</td>
</tr>
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<td>Hepatitis B</td>
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<tr>
<td>Autoimmune</td>
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<tr>
<td>Cryptogenic</td>
</tr>
<tr>
<td>Mean operative time</td>
</tr>
<tr>
<td>Mean, blood transfusions</td>
</tr>
<tr>
<td>Mean ICU stay</td>
</tr>
<tr>
<td>Mean hospital stay</td>
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<tr>
<td>#with rejection</td>
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<tr>
<td>#currently employed</td>
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<td>1 year graft/patient survival</td>
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<table>
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<th>Table 2: Childs-Turcott-Pugh Score</th>
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<td>Points</td>
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<tr>
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<td>Ascites</td>
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<tr>
<td>Albumin (g/dl)</td>
</tr>
<tr>
<td>Prothrombin time (sec prolonged)</td>
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<td>For primary biliary cirrhosis, other cholestatic liver diseases. Bilirubin (mg/dl)</td>
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</table>

United Network for Organ Sharing (UNOS) is an organization, which exchanges scientific information, compiles statistical data, promotes organ donation and creates policy for all organ allocation/distribution. Members of UNOS include transplant centers, organ procurement organizations, transplant physicians, histocompatibility laboratories, and members of the community including transplant recipients and donor families.

UNOS has developed various policies for organ allocation depending on the type of organ transplanted. UNOS has divided the US into 11 different regions – Hawaii is a part of Region 5. Factors which are generally involved in organ allocation include blood type, size of the patient, waiting time, and medical urgency status.

When a donor liver becomes available, it is offered to the patient of compatible blood type and size and in the order of medical urgency (Status 1 first) locally, then within the region, then within the United States (US). If a liver becomes available in Hawaii, it is offered to local patients first. If no suitable patient is found then it will be offered to the centers within Region 5. If no one in region 5 accepts the organ, it may be used anywhere in the US.

UNOS has developed the standardized listing criteria outlined above in order to avoid listing patients too early or transplanting patients with unreasonable likelihood for survival. It allows for some uniformity in listing practices between the 121 liver transplant centers in the US.

The most controversial issue currently facing the transplant community is the intervention of the Department of Health and Human Services (HHS) on the practices of UNOS. Several of their principles include: “Transplant patients are best served by an organ allocation system that functions equitably on a nationwide basis” and “Organs should be equitably allocated to all patients, giving priority to those patients in most urgent medical need of transplantation, in accordance with sound medical judgment”, Also, “The Secretary of HHS should represent the public interest by setting broad goals for the OPTN (Organ Procurement and Transplantation Network) and by overseeing OPTN policy development and operations with a view toward ensuring that the goals are being addressed in a reasonable manner”. While transplanting the sickest patients seems to make sense to the average person, studies have demonstrated that the sickest patients have the poorest survival and the highest hospital charges. Furthermore, if there is a single national list of patients, donor organs may end up traveling longer distances to the sickest patients—thus prolonging the cold ischemic time and threatening graft function.

How any new rules will affect Hawaii is not clear at this time. Our program has had difficulty transplanting the sickest patients—with six patients dying while waiting on the list. Furthermore, only 9.5% of all patients transplanted were waiting in the ICU(status 1 or 2A) compared to the national average of 16%. This may be due in part to geographic isolation and difficulty sharing organs with mainland centers. The basic problem underlying the entire controversy or organ distribution, however, is the lack of enough donor organs to meet the ever-burgeoning list of patients waiting for transplant. Physicians and all health care professionals, should do their part for the organ shortage by promoting organ donation and promptly referring any potential donor.

References:
1. Department of Health and Human Services, Health Resources and Services Administration, The U.S. Scientific Registry of Transplant Recipients and The Organ Procurement and Transplantation Network, 1997 Annual Report, pages 139-144.
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Abstract
This research investigated complementary and alternative medicine (CAM) use by Hawai‘i cancer patients. Thirty-six percent of patients used CAM, most commonly religious/spiritual therapy and herbal treatments. CAM use was linked with younger age, female gender, Catholic religion, and more education. More research is needed to inform decision-making.

Introduction
Complementary and alternative medicine (CAM) has received increased attention in the past few years, both in the lay and professional literature. Although alternative medical practices and systems have a long history in the US,¹ the establishment of an Office of Alternative Medicine (OAM) within the National Institutes of Health in 1992 gave impetus to defining the field and setting a research agenda. The most recent definition of CAM, developed by a panel of experts convened by the OAM includes the following points: “Complementary and alternative medicine (CAM) is a broad domain of healing resources that encompasses all health systems, modalities, and practices and their accompanying theories and beliefs... CAM includes all such practices and ideas self-defined by their users as preventing or treating illness or promoting health and well-being...”.² Specific types of CAM have been classified by the OAM to include alternative systems of medical practice (e.g., acupuncture), bioelectromagnetic applications (e.g., electromagnetic fields), diet, nutrition, and lifestyle changes, herbal medicine, manual healing (e.g., massage therapy), mind/body control (e.g., meditation), and pharmacological and biological treatments (e.g., anti-oxidating agents).

Given that cancer is a potentially fatal disease which is often not curable with currently-available allopathic medical treatments, it is not surprising that cancer patients are likely to seek out CAM therapies. Published reports of the prevalence of CAM use in cancer patients vary; a recent review of 26 surveys found reported use rates varied from 7% to 64%, with a mean across studies of 30%.³ Such variations are likely to reflect differences in definitions of CAM used by various investigators, as well as differences in characteristics of the respondents.

CAM use in cancer patients poses a number of serious concerns. For example, some CAM therapies have significant toxic side effects.⁴ Further, no quality control standards are in place for herbal supplements, creating inconsistency in dosages and the potential for contamination.⁵ CAM can be costly as well: in excess of $14 billion overall is estimated to be spent annually in the US on CAM treatments.³ Patients may delay or refuse potentially curative cancer treatments in favor of CAM. On the other hand, some of types of CAM may be benign, or have some therapeutic effect. CAM may also contribute to better quality of life. Understanding these potential effects is essential before physicians can make recommendations about CAM use.

Hawai‘i presents an exceptional environment to investigate the use of CAM therapies in cancer patients. Given the cultural diversity of the state, many different kinds of CAM therapies are readily available, including traditional Hawaiian healing and Chinese medicine, such as herbs and acupuncture. While intense ethnobotanical research is ongoing to identify biologically active components in native plants used in traditional medicine,⁶,⁷ no information is available about how many patients use these and other approaches and why they do so.

This report provides a summary of the results of two studies in newly diagnosed Hawai‘i cancer patients: a survey of CAM use developed to determine the types of CAM therapies used, document the prevalence of use, and describe characteristics that distinguish CAM users; and an interview study designed to gain in-depth information about why breast cancer patients used CAM and how they evaluated their experience.

Study 1

Methods
Participants. Patients were identified through consecutive registrations on the Hawai‘i Tumor Registry (HTR), a member of the National Cancer Institute-supported Surveillance, Epidemiology, and End Results Registry. Eligibility criteria were: histologic confirmation of any kind of cancer diagnosed between four and six months previously; ability to understand English; permission of primary physician; Oahu residency; Caucasian, Filipino, Hawaiian, or Japanese ethnic origin; 18 years of age or older. Participation was not limited by stage or site of disease.

Procedures. Permission was obtained from the attending physician before patients were contacted. Patients received a letter followed by a telephone call, and data were collected by interviews, most often at the patient’s home. Interviews were conducted by one of four female research associates, all of whom had completed graduate work in social sciences as well as extensive training in...
interviewing cancer patients. The patients completed a semi-structured interview which included the questions discussed in this paper. (Additional questionnaires were also administered which will be discussed in separate reports.)

Type of CAM use. Patients were asked, “Have you tried any alternative, traditional treatments or remedies? What were they?” The interviewers recorded verbatim responses in the patients’ own words. The responses were then compiled and coded using the previously-mentioned classification scheme for CAM therapies developed by the OAM. The OAM’s criteria provided a framework for classifying the responses of the patients in this study.

Results

Participation. A total of 367 cancer patients participated in the study, representing 58% of the total of 646 eligible patients who were invited to take part. The most frequent reasons for nonparticipation were patients not feeling well enough to take part or being “not interested.” A comparison of participants and nonparticipants showed that there was some variation in response rate by ethnicity: 65% of Caucasians and Hawaiians, 56% of Filipinos, and 51% of Japanese patients agreed to take part. There was a gender difference in participation as well: 49% of men and 68% of women participated in the QOL interview. The participants were slightly younger than the patients who refused to take part (means of 62 vs. 68 years). Breast cancer patients were particularly likely to participate: 82% of the breast cancer patients agreed to take part in the study.

Three hundred forty three patients who provided complete information about CAM use comprised the sample for this paper. Cancer sites for these patients included breast (34%), prostate (29%), bladder (6%), and uterus (8%), as well as smaller numbers of a variety of other cancers. All patients had undergone some kind of cancer therapy: 81% had surgery, 39% radiation therapy, 24%, hormonal therapy, and 18% chemotherapy.

Types of CAM used. Table 1 provides a summary of the different kinds of CAM approaches, the number of patients in this study reporting use of each type, and examples of the kinds of remedies mentioned by patients. One hundred twenty two patients reported using a total of 195 different types of therapies, an average of 1.6 per patient. The most frequent type of CAM was religious or spiritual therapy; followed by herbal medicine and lifestyle changes. Within each category, patients reported many different types of treatments.

Prevalence and correlates of CAM use. Table 2 summarizes characteristics of study participants who did and did not report use of CAM therapies. It can be seen that, overall, 36% of the participants said that they had tried CAM. A number of patient characteristics were related to therapy use: age, gender, religion, and education. We did not observe significant differences according to ethnicity, marital status, cancer site or stage of disease.

In order to determine which of these variables was the best predictor of CAM use, a stepwise logistic regression was performed using the sociodemographic and clinical variables in Table 2. Two variables were significantly associated with CAM use in this analysis: having a college degree (odds ratio = 2.4, 95% confidence intervals = 1.3, 4.3) and being Catholic (odds ratio = 1.9, 95% confidence intervals = 1.1, 3.3).

Study 2

Methods

Participants. Participants were asked to participate in an interview about their CAM experience on the basis of an affirmative response about CAM use on a mailed questionnaire that was part of an ongoing study of patterns of care in breast cancer. This study was open to all patients with newly-diagnosed breast cancer at several major Honolulu medical centers. Physician permission was obtained before patients were enrolled in the study. The study included
Table 2.—Variables Associated with CAM Use

<table>
<thead>
<tr>
<th>Variable</th>
<th>Used CAM</th>
<th>Did Not Use CAM</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 50</td>
<td>26 (45.6 %)</td>
<td>31 (54.4 %)</td>
<td></td>
</tr>
<tr>
<td>50 – 69</td>
<td>59 (35.8 %)</td>
<td>106 (64.2 %)</td>
<td>p = 0.147</td>
</tr>
<tr>
<td>70 or Older</td>
<td>35 (30.4 %)</td>
<td>80 (69.6 %)</td>
<td>p = 0.022</td>
</tr>
<tr>
<td>Mean (Std. Dev.)</td>
<td>60.2 (13.1)</td>
<td>63.5 (12.1)</td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hawaiian</td>
<td>16 (38.1 %)</td>
<td>26 (61.9 %)</td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>38 (33.9 %)</td>
<td>74 (66.1 %)</td>
<td></td>
</tr>
<tr>
<td>Japanese</td>
<td>45 (34.9 %)</td>
<td>84 (65.1 %)</td>
<td></td>
</tr>
<tr>
<td>Filipino</td>
<td>21 (38.9 %)</td>
<td>33 (61.1 %)</td>
<td>p = 0.911</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never Finished High School</td>
<td>15 (32.6 %)</td>
<td>31 (67.4 %)</td>
<td></td>
</tr>
<tr>
<td>High School Graduate</td>
<td>20 (23.3 %)</td>
<td>66 (76.7 %)</td>
<td></td>
</tr>
<tr>
<td>Some College</td>
<td>39 (36.4 %)</td>
<td>68 (63.6 %)</td>
<td></td>
</tr>
<tr>
<td>College Graduate</td>
<td>43 (46.7 %)</td>
<td>49 (53.3 %)</td>
<td>p = 0.012</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>46 (30.3 %)</td>
<td>106 (69.7 %)</td>
<td>p = 0.063</td>
</tr>
<tr>
<td>Female</td>
<td>74 (40.0 %)</td>
<td>111 (60.0 %)</td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catholic</td>
<td>40 (45.4 %)</td>
<td>48 (54.6 %)</td>
<td></td>
</tr>
<tr>
<td>Other Christian</td>
<td>40 (30.1 %)</td>
<td>93 (69.9 %)</td>
<td></td>
</tr>
<tr>
<td>Buddhist</td>
<td>14 (28.6 %)</td>
<td>35 (71.4 %)</td>
<td></td>
</tr>
<tr>
<td>No Preference</td>
<td>16 (30.8 %)</td>
<td>36 (69.2 %)</td>
<td>p = 0.044</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Married</td>
<td>31 (31.6 %)</td>
<td>67 (68.4 %)</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>83 (36.7 %)</td>
<td>143 (63.3 %)</td>
<td>p = 0.378</td>
</tr>
<tr>
<td>Cancer Stage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 0, 1, or 2</td>
<td>98 (33.8 %)</td>
<td>192 (66.2 %)</td>
<td>p = 0.118</td>
</tr>
<tr>
<td>Stage 3 or 4</td>
<td>21 (45.7 %)</td>
<td>25 (54.3 %)</td>
<td></td>
</tr>
<tr>
<td>Cancer Site</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breast</td>
<td>49 (42.2 %)</td>
<td>67 (57.8 %)</td>
<td></td>
</tr>
<tr>
<td>Prostate</td>
<td>28 (28.3 %)</td>
<td>71 (71.7 %)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>43 (35.2 %)</td>
<td>79 (64.8 %)</td>
<td>p = 0.103</td>
</tr>
</tbody>
</table>

Table 2—Variables Associated with CAM Use

a number of questionnaires as well as review of medical records which will not be discussed here.

Methods. A female medical student interviewer conducted semi-structured interviews at a location of the patient’s choice. Most patients were interviewed at home. The interview included both open-ended questions and self-administered questionnaires.

Results

Participation. Twenty-eight patients were asked to take part in an interview about CAM, and 24 agreed. The ethnic distribution was: Caucasian (n=9), Japanese (n=6), Filipino (n=4), Chinese (n=3), Hawaiian (n=1), and Native American (n=1).

Allopathic treatment. All patients had received surgical treatment, 13 had received chemotherapy, and 15 had received radiation. Most women were very satisfied with their medical care; on a scale of 1 to 10, where 10 signified “completely satisfied,” respondents gave a mean score of 9.4 (n=20; four women did not wish to use the scale to respond to this question).

Types of CAM used and perception of results. Findings indicated that the patients used a great variety of therapies. The most common CAMs were herbs (n=13), vitamins (n=11), and massage (n=5). A great variety of CAMs were used by smaller numbers of patients, including aloe, meditation, noni, qi gong, meditation, healing touch, shark cartilage, and acupuncture. Most patients used more than one CAM simultaneously.

Most women were very satisfied with their CAM experience; on a scale of 1 to 10, where 10 signified “completely satisfied,” respondents gave a mean score of 8.7 (n=17). Many women could identify specific outcomes that were associated with their treatment. For example, one woman took herbs prescribed by a Chinese herbalist for lymphedema and remarked, “He gave me great relief. Wow, my hands are almost the same size—he brought the swelling down.” Several women cited the positive effects of aloe on wounds, and general increases in energy levels attributable to herbs, vitamins, and teas. A number of women were not sure if CAM had helped or not; as one person said about meditation and breathing exercises, “Psychologically, it was excellent. Physically, I don’t know.” Another woman was cognizant of possible placebo effects: “I think it’s attitude too. You have to believe in it.”

Discussion of CAM use with physician. No doctor advocated CAMs other than dietary changes as part of cancer treatment, although one physician recommended an herbal mixture along with an antibiotic. The women were asked if they had discussed their CAM use with their physician. About half (n=14) had done so. Of those who had not mentioned this to their physician, the most common reason was “It didn’t come up.” No woman who had discussed her CAM use reported a negative reaction. Most physicians seemed to take a neutral stance (“he didn’t discourage or encourage me”), although a number were supportive, making remarks such as “Go for it!,” “If you feel you want to take it, then go ahead.” Several physicians asked to see the treatment (e.g., the bottle of pills or, in one case, a plant).

Case examples of patient experiences. To illustrate the variety of CAMs used by some women, and their experiences with them, several case studies of heavy CAM users are described below.

Case A. A 50 year old Japanese woman who was diagnosed with a second primary breast cancer used a number of CAM approaches. She had received an advanced degree and worked full-time in a professional position. Mrs. A. obtained several herbs through a mail order company including pau’arco (bark of the tahibo plant) and “neolife” vitamins (which included vitamins C, E, a selenium supplement, and others). She also ingested wheatgrass tea (to “clean my system”), lymph tea (“it’s anti-cancer”), and “antioxidants.” In
addition, she consulted with an iridologist, a Christian prayer healer and someone who conducted colon cleansing. Further, she engaged in meditation. An auntie had been the person who suggested most of these remedies to her, and she had used them for the decade following her first diagnosis. She felt that using CAM gave her peace of mind and would save her from dying. In her view, in fact, CAMs should serve as primary cancer treatments since they are more likely to lead to healing than medical care. Mrs. A. added, “Take time out for fun. One of the major medications is to be happy.”

Case B. Ms. B. was a single 50 year-old Caucasian woman who was a high school graduate. She had received surgery and radiation for her Stage I breast cancer. Ms. B. took Chinese herbs as well as Vitamins A, B, and C, evening primrose oil, garlic, calcium, antioxidants, and oolong tea. In addition, she practiced qi gong, participated in a reiki group, and underwent light therapy. She also took nutrition classes at a local medical center to improve her eating habits. She worked full-time in a service industry, and one of her clients had alerted her to these options. She said she chose CAMs “because I believe in alternatives. I don’t believe that doctors aid you in healing. I didn’t have any expectations. I went in with an open mind. It couldn’t hurt and it felt right.” Ms. B. felt that the CAM, qi gong in particular, “works because it’s positive and natural. We have the capability of curing ourselves. Your mind can cure you or kill you.”

Case C. Ms. C. was a single woman in her forties of Chinese-Korean ancestry who was diagnosed with Stage 2B breast cancer. She was a college graduate who worked full-time in a professional position. She had received surgery, chemotherapy, and radiation therapy for her disease and was currently taking Tamoxifen. With respect to CAMs, Ms. C. took sunrider (Chinese-oriented herbs), antioxidants, therapeutic tea, vitamins, garlic, Echinacea, aloe, and florabalan, as well as shiatsu massage. She believed that the herbs played a role in purging the body of toxins and also helped her to get through the chemotherapy; “I know it’s done something, since being on the products helped me to respond to the drugs.” She also noticed that the shiatsu helped her to regain motion in her shoulder after surgery. She saw CAM as complementing medical care: “It works hand in hand. They’re two different things. The medical treatment blocks disease. (CAMs) are as effective as medical treatment in building up the body.”

Discussion

This study provides the first report of CAM use in Hawai‘i cancer patients. Study 1 is based on responses from a registry-based population and includes a heterogeneous group of patients who were assessed at the same time after diagnosis. Study 2 provides in-depth information on a specific population sub-group: women with breast cancer. Several caveats to data interpretation should be mentioned, however. Given the differential response rates, the results may be more valid for Caucasians, Hawaiians, women, breast cancer patients, and younger individuals. In addition, the survey and interviews relied on self-reports. Even though the interviewers were not part of the medical care team and had been trained to elicit candid responses to personal questions, it is possible that some patients may not have wanted to discuss full CAM use with the interviewer.

The patients reported using a tremendous variety of CAM approaches, and many used more than one approach simultaneously. For the most part, the kinds of therapies cited were consistent with the OAM classification. However, several significant differences are seen. The OAM listing includes “bioelectromagnetic applications,” which includes blue light treatment and artificial lighting, electroacupuncture, electromagnetic fields, electrostimulation and neuromagnetic stimulation devices, and magnetoresonance spectroscopy. Only one patient in the interview study mentioned having tried one of these approaches. Perhaps they are not as popular in Hawai‘i as elsewhere. On the other hand, the CAM listing includes “prayer therapy” within the general “mind/body control” category. In this sample, the use of prayer was so prevalent that we listed it as a separate category.

With respect to prayer, and in fact to all the therapies mentioned, sometimes patient responses indicated behaviors that did not greatly differ from everyday practices, while others represented a special cancer-related activity. For example, many patients reported saying prayers, or having prayers said by their church, to help themselves get well, while one patient said that he conducted a healing mass “to try to remove my sickness,” and another had gone to a Christian prayer healer. Dietary changes included changes as simple as eating healthier foods and as complex as daily preparation and ingestion of a special soup using six fresh vegetables recommended by an alternative medicine institute. Many herbal medicines were mentioned, the most common being essiac tea and shark cartilage. While manual therapies were relatively uncommon, a number of patients reported experiences with “healing touch” in the hospital. One patient related how a staff member in the same day surgery unit included healing touch in preparations for her lumpectomy. “She ‘laid over hands’ and told me ‘to see the light’ and let it heal me. Wheebling me to surgery, (she) sang Happy Trails.” The patient said she laughed, went along with it, and also felt more at peace.

Thirty-six percent of patients in this study reported using some kind of CAM. As mentioned earlier, previous estimates of how many cancer patients use CAM have varied considerably. These reports differ for a number of reasons: the year when the data were collected (since CAM’s popularity has increased over the past decade), patient population (site of disease and type of institution), the length of time since cancer diagnosis, methodological differences in how patient response was elicited (e.g., an open-ended question, such as that in the current study, compared to a checklist), and the varying definitions of CAM that were employed. The findings of this study are quite consistent with the average percentage — 30% — reported in the world’s literature. However, additional research is needed to replicate and refine this estimate.

These results of the survey indicated that CAM users tend to be younger, women, Catholic, and better educated. These correlations, with the exception of the link to Catholicism, are consistent with all other studies of CAM in cancer patients and other populations. Educational level has been investigated in virtually all studies of CAM use and consistently emerges as the strongest predictor. While this may seem surprising initially, it likely reflects greater knowledge and access to resources among people with higher education. Education may also confer increased self-confidence in knowing how to seek out additional support beyond what is provided in the hospital and doctor’s office. Religion, and Catholicism in particular,
have not been identified with increased CAM use in other reports. However, as noted previously, the current population appeared to be much more likely to mention religious approaches for their cancer. It should be noted that a high percentage (73%) of Filipino patients were Catholics. While religion emerged as a more powerful predictor than ethnicity in our analysis, the small number of individuals in some groups limited statistical power to detect differences. It is likely that the many Filipino cancer patients seek support from their religion. We did not see other ethnic variation in CAM use, although our sample sizes were small. However, it is possible that the ethnocultural mix that occurs in many aspects of life in Hawai’i extends to this area as well, and that cancer patients in this state draw on the full range of options available from a variety of cultures. We did not find that CAM use varied according to stage of disease. However, it is possible that larger and more varied samples may report stage-associated differences in types and frequency of CAM use. For example, patients with completely resected cancer may be more likely to seek therapy to manage the symptoms associated with adjuvant chemotherapy or radiation as well as preventative interventions. Patients with advanced or incurable cancers may seek CAM modalities directed at treating their existing cancer. These issues may be addressed in future studies.

This study has shown many cancer patients in Hawai’i are using alternative treatments in conjunction with their medical treatments for cancer. Of 38 patients who were undergoing chemotherapy at the time they completed the survey, 11 (29%) reported taking herbal supplements of some sort at the same time. It is not known how many of these patients discussed their CAM practice with their physicians, although the interview study indicated that almost half of the women did not discuss their CAM use with their physicians. However, herbal remedies may have a number of side effects and may possibly interact with chemotherapeutic agents and other medications. Thus, physicians, and oncologists in particular, need to be aware of the common alternative practices available and used here in Hawai’i so that they may initiate discussion about these issues with their patients and guide them away from potentially harmful treatments.

The interviews with the breast cancer patients replicated a finding that has been reported elsewhere: satisfaction with medical care was rated highly, indicating that for many patients, using CAM is not a reflection of dissatisfaction with medical care. Although there were a few cases where the patient was “anti-biomedical therapy,” most women in this study rated their medical care highly. Obtaining CAM appeared to meet different needs, including symptom control, psychological support, including stress management, spiritual concerns, and the ability to exert control over their health. A number of women remarked, “I had nothing to lose.”

Additional research is required to examine the efficacy of CAM interventions. Since so few of the approaches used by the patients in this study have received rigorous evaluation, their value is unknown. Patients remain at the mercy of unsupported claims and powerful advertising, and they may waste time, energy, and money and end up demoralized or with worse outcomes than if they had not used CAM. Yet it is possible that CAM offers benefits in terms of symptom control, enhanced quality of life or survival. The very process of seeking out CAM may enhance patients’ morale, and improve their efforts at self-care. The investigators at the Cancer Research Center have several other studies planned and in progress that will lay a foundation to understanding more about why cancer patients seek CAM and its effects on patient outcomes. The team is also working to identify CAM approaches that will be acceptable to patients and physicians for testing in controlled trials. Such rigorous research will provide necessary information to enable cancer patients and their physicians to make informed choices about CAM.

Acknowledgement

We gratefully acknowledge the contributions of the following people in data collection and analysis for this research: Mary Clarke, Mary Lynn Fiore, Akiko Lau, Malia Wilson, Jeffrey Stern, Joan Hulup, Daniella Dumitriu, Dorothy Coleman, Yuka Sato, Shelley Clark, Anne Rimoin, and Ian Pagano. We appreciate the participation of Kaiser Foundation Hospital, Kapiolani Medical Center for Women and Children, Kuakini Medical Center, Queen’s Medical Center, St. Francis Medical Center, and Straub Hospital. Portions of this research were supported by National Cancer Institute grants R01 CA 61711 (CCG), R01 CA 64045 (BFI), and an American Cancer Society Student Research Award (WH).

References


Correction

Please note that the above manuscript entitled, "Use of Complementary and Alternative Medicine in Hawaii Cancer Patients" by Carolyn C. Gotay PhD, Wendy Hara BA, Brian F. Issell MD, and Gertraud Maskarinec MD, PhD, was originally published (Haw Med J. 1999;58:49-51, 54-55) without entire list of authors. We reprinted the corrected manuscript in its entirety. We apologize to the authors and to the readers for the error.
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March 30 is celebrated as Doctor’s Day across the nation. First proclaimed in 1933, Doctor’s Day is dedicated to the physicians of America, recognizing their contributions of caring for the sick, advancing medical knowledge, and promoting public health.

On behalf of the City and County of Honolulu, Mayor Jeremy Harris presented the proclamation to HMA president Patricia L. Chinn, MD. In the photo are (l to r): Richard S. Miller, professor of law emeritus who received an award from the medical auxiliary for community service; Arleen Jouksen-Meyers, MD who was selected the 1998 HMA Physician of the Year; Mayor Harris; HMA President Chinn; and HMA Secretary Philip Helreich, MD. State of Hawaii Governor Ben Cayetano also presented a Doctor’s Day award (photo not ready at print time). Physicians will also be honored by the House of Representatives on March 30 and by the State Senate on April 1. The Kauka No Kōkua (Alliance) was also instrumental in coordinating a full page announcement in the Honolulu Advertiser honoring state physicians.
FREE English and Spanish booklets for cancer patients and health professionals on:

- Specific cancers
- Treatment
- Screening
- Detection
- Prevention
- Statistics

For answers to your questions about cancer and to order your catalogue, call NCI’s Cancer Information Service at 1-800-4-CANCER (1-800-422-6237).
Persons with TTY equipment, dial 1-800-332-8615.

http://rex.nci.nih.gov

Even the smallest ads get seen in the Hawaii Medical Journal.
To place a classified ad call 536-7702.

Let our 6th grade girls show your 5th grade girls what learning can be …
Take a peek at the animated learning environment with make-n-take art, science and technology projects. Super Sixth Grade Sunday for prospective applicants, January 24th, 3:30 to 5:30.
Ted's Almanac
(From Hakobu Kumagai's desk)
It is hard to believe that a man is telling the truth when you know that you would lie if you were in his place.
I used to be indecisive, but now I'm not sure.
I have an open mind, it's just closed for repair.
The world is full of willing people. Some willing to work and some willing to let them.
One golfer to another: "First it was my marriage, but now, the magic has gone from my nine iron, too."
Harvey's Law: "You can't fall off the floor."

Life in These Parts...
Insta Trak System (at SFH)
The first computer-guided sinus surgery in Hawaii was performed on Nov. 13 by ENT man Roland Tam. Roland says, "The benefit I found is that I knew my patient a lot better. Before, we used a CT scan which gave us a sampling of the sinus cavities...It was like reading every fifth page of a novel...This new technology allows us to see the whole picture, forward, backward, up, down, and sideways."

Ophthalmologist Jorge Camara performed surgery on a patient with proptosis. Jorge was equally ecstatic: "The endoscope allows the surgeon to view the details through a small hole...while the Insta Trak system is like entering a home...It allows the surgeon to see where he is going in relation to the other adjacent rooms of the house..."

Euthanasia Opposed
Thirteen organizations of physicians, nurses, the disabled, hospitals and the religious right banded as the "Hawaii's Partnership for Appropriate and Compassionate Care," to fight the proposal to legalize doctor-assisted death. The coalition included the Hawaii Medical Association, Hawaii Family Forum, Hawaii Right to Life, Hawaii Christian Coalition, the American House of Law & Justice of Hawaii, Hospice Hawaii, Hawaii Catholic Conference, the Healthcare Association of Hawaii (representing hospitals and nursing homes) and the Hawaii Cancer Pain Initiative.

Physician Moves...
Thomas Jimenez, chief of surgery, Hilo Medical Center announced his recertification in general surgery by the American Board of Surgery.
OB Gyn man Ronald Volt closed his private practice in Hilo on Jan 15.
Hoon Park announced evening hours Mon-Fri 8am-8pm at 808 Ululani St, Hilo, HI.
The Hilo Family Practice Center closed as of Dec 31 (Family physicians Lynda Dolan, Laurie Hopman and Jan Martell relocated their practice at 409 Kiluaea Ave.

Potpourri I...
Two men were sitting in a doctor's office.
"What are you here for?" one asked.
"Circumcision," the other replied.
"I had one of those the day after I was born," the first man commented. "Afterward, I couldn't walk for a year."

Gravely ill, a man went to the doctor with his wife. After the exam, the physician motioned for the wife to meet him in the hallway...
"Your husband is very sick," the doctor said.
"But there are three things you can do to ensure his survival. First, fix him three healthful, delicious meals a day. Next, give him a stress free environment and don't complain about anything. Finally, make passionate love to him every day."
On the way home, the husband asked, "What did the doctor say?"
"I'm sorry," she said, "but you're not going to make it."

Medical Tid Bits...
Efforts to Avoid C-Section Poses Dangers
A NEJM article by four physicians at Harvard teaching hospitals say that pressure from HMO's and policy makers is leading physicians to encourage vaginal delivery even when the risks are higher than with C section. The OB men are concerned about an increase in uterine ruptures as well as injuries to babies caused by vacuum devices and forceps.

Re Birth Control Pill
The latest issue of the British Medical Journal reports that 46,000 British women tracked 25 years showed no increased incidence of death from cancer, strokes and other side effects. More than 300 million women worldwide have used the pill and an estimated 100 million are currently taking it.

Magnet Therapy
Neurologist Michael Weintraub of New York Medical College reports in the Journal of Pain Management Jan issue that magnets may relieve hepatic Type IIGlucotoxicity (liver) from cancer, strokes and other side effects. Magnet Therapy may relieve hepatic Type IIGlucotoxicity (liver) from cancer, strokes and other side effects.

Potpourri II...
A Challenge...
John Robinson MD Vancouver
When the pneumonia vaccine arrived last Fall, I went to visit one of my shut ins, but very mentally alert 90 year old ladies...
As I was giving her the shot, I said, "This is good for at least 10 years."
She promptly replied, "Oh, I'll be here for it. But will you?"

Conversation Stopper...
R. Bartlett MD Saxe, N.B.
An important part of the art of medicine is putting the nervous or embarrassed patient at ease. Such was the case one beautiful April day when a 20 year old woman was presenting for her first ever complete physical.
While examining her breast, I made the innocent comment, "Nice Spring."
Her quick and some what short retort was, "Yes, it's because I'm still young."
A few seconds later, she suddenly realized my comment was about the season, not her tissue turgor.
The rest of the examination was conducted with minimal conversation with no further effort to distract her from the indignities of her situation.

Conference Notes...
"Insulin Resistance" VP Robert Henry, UC San Diego, Friday, 8:00am, Queens Kam Aud Feb. 5, 1999.

A. Introduction:
- a. Pathogenesis Type II:
  - hepatic glucose → glucose (liver)
  ↓
  insulin (pancreas) → Peripheral insulin resistance(muscle)

- b. Progression Type II
  Genetics → Insulin Resistance → Acquired Obesity (Sedentary life style) → Hyperinsulinemia → Normal glucose tolerance → Compensated Insulin Resistance → Impaired Glucose Tolerance → Genetics → Beta Cell Failure → Acquired → Type II → Glucotoxicity glucose output → GGA levels other

- Potpourri II...
  - insulin resistance syndrome (cardiovascular dysmetabolic syndrome)
  - genetics → insulin resistance → environmental influence → hyperinsulinemia
c. Insulin Resistance Syndrome
1. Clinical Manifestations:

Insulin resistance in IGT and DM: Glucose disposal rates at identical glucose levels: Normal > IGT > DM

Insulin resistance: Pancreatic B Cells

| Normal Cells (Hyperinsulinemia) | Abnormal Cells (Hyperglycemia) |

<table>
<thead>
<tr>
<th>2. Prevalence Insulin Resistance in Metabolic Disorders:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ↑ cholesterol b. ↑ BP c. ↑ urates</td>
</tr>
<tr>
<td>d. IGT e. NIDDM</td>
</tr>
<tr>
<td>f. ↑ triglycerides g. ↓ HDL</td>
</tr>
<tr>
<td>h. ↓ IGT/NIDDM + Dyslipidemia + ↑ urates: 95%</td>
</tr>
</tbody>
</table>

f. Long Term Complications of DM:
   1. ↑ Microvascular disease  2. ↑ (Macrovacular) disease

g. CAD Mortality in Type II:
   - men: 2-3 x ↑ death rate (Joslin)  - women: same after losing protection of estrogen (ie. post menopausal…)

Is insulin atherogenic? Ans: No HBA1c predicts CAD in Type II:

Hyperlipidemia → ↓ Hyperglycemia
Hypercoagulability → ↓ Insulin Resistance

h. Rx Cardiovascular Metabolic Syndrome:
   1. Ameliorate hyperglycemia  2. Improve lipoprotein  3. Control hypertension

B. Treatment of NIDDM: ("Getting back on the curve")

a. Oral pharmacologic Therapy (5 classes)
   1. Sulfonylurea (Most potent for HBA1c)  2. Biguanides
   3. Alpha Glucoside Inhibitors: (Acarbose) tid a.e.: effect on HBA1c; start 25mg od and Tup to tid; Max 50mg tid
   4. Thiazolidinedione
   5. Repaglinide: (in Metformin failure) Insulin secretagogue; adjunct to diet and exercise; use in combination with Metformin; enhances insulin secretion; two to four times a.e./d

*Metformin (US 4 yrs; Europe 40 yrs experience) Lowers hepatic glucose production; insulin

sensitizer; in Sulfonylurea failures, add Metformin to glyburide or Metformin with insulin Rx; avoid when serum creatinine elevated (Metformin is cleared by kidney)

* Thiazolidinedione: pure insulin sensitizers
   * Troglitazone (Activities PPARy nuclear receptor in skeletal muscle)

   Time course of weeks and months: never stop sulfonylureas when starting
   Troglitazone (or any sensitizer); Troglitazone may reduce insulin dose in insulin treated Type 2; Troglitazone reduces triglycerides; raises HDL and LDL.
   Treatment schedule for Troglitazone: Start 200mg od for 2 to 4 weeks; then increase q 2 to 4 weeks to maximum 600mg; check transaminase

*Insulin sensitizers are Troglitazone and Metformin…

<table>
<thead>
<tr>
<th>TRZ</th>
<th>MET</th>
<th>TRZ-MET</th>
</tr>
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<tbody>
<tr>
<td>FBS</td>
<td>-2</td>
<td>-20</td>
</tr>
<tr>
<td>HBA1c</td>
<td>⇐</td>
<td>⇐ │ -1.2</td>
</tr>
<tr>
<td>MEAN PPG</td>
<td>-25</td>
<td>-25</td>
</tr>
<tr>
<td>EGD</td>
<td>⇐</td>
<td>⇐ │ -16</td>
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<tr>
<td>ISGD</td>
<td>+97</td>
<td>+27</td>
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Potpourri III...

George knew what he wanted in a woman...
"The girl I marry will be an economist in the kitchen, an aristocrat in the living room and a harlot in bed."

Now he's married and his wife has all the required traits—but not in the same order. She's an aristocrat in the kitchen, a harlot in the living room and an economist in bed.

Quotable Quotes
Most people don't mind criticism as long as it's about someone else... (National Enquirer)

We all live every day in virtual environments defined by our ideas. (Michael Crighton)
The world is progressing and resources are becoming more abundant. I'd rather go into a grocery store today than to a King's banquet a hundred years ago... (Bill Gates)

Doing the best at this moment puts you in the best place for the next moment... (Oprah Winfrey)

In the Fast Lane

I was heading for work on the freeway one morning when I noticed a car weaving slightly in the next lane. As I pulled even with it, I could see that the driver's face was almost touching the windshield as she used the rear view mirror to apply mascara.

Suddenly she veered in my direction... It scared me so badly I dropped my lip stick right into my cup of coffee. (Catherine Lemm)

Conference Notes...
"GERD" VP Donald Castell MD, President American GE Ass'n, Chm Department of Medicine, Allgheny Univ of Health Sciences Fri Mar 5 QMC

Introduction:
   a. GERD: Sy's č or š tissue damage 2° to reflux of gastric contents...
b. NERD: Non erosive reflux disease.

Prevalence of Heart Burn in US:

<table>
<thead>
<tr>
<th>Controls</th>
<th>Monthly 15%</th>
<th>Patients</th>
<th>20%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Weekly 14%</td>
<td>&quot;</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td>Daily 7%</td>
<td>&quot;</td>
<td>13%</td>
</tr>
</tbody>
</table>

GERD Spectrum:
Typical
(Heart Burn/ Regurgitation)
c erosive esophagitis
š esophagitis*

Atypical
Angina like pain
Asthma/cough
Laryngitis

Complications
Ulceration
Stricture
Metaplasia*
(Barrett's)

*Requires abnormal pH-metry
**AdenoCa increasing č Barrett's.
Lower LES Pressure a/c severe GERD.

Pathogenesis GERD:
- LES incompetent
- **Inappropriate LES relaxation

GERD Diagnosis:
   a. Clinical Hx  b. Barium studies (Air contrast)
   c. Endoscopy  d. Ambulatory pH monitor
**Who to endoscope?
   a. GERD sy's > 5yrs  b. age > 40
   c. White male (never seen in blacks)
   24° Ambulatory pH Monitor: Spikes below pH 4.0 = reflux

GERD Rx:
   a. Life Style Modification
      1) Elevate head while sleeping č 6 inch block under legs or wedge under mattress. 2) Modify diet: Volume & fat
      3) Avoid recumbancy 3 hrs pp 4) Stop smoking
      5) Antacids, alginic acid, H₂RA (OTC dose)

b. Pharmaceutical Rx
   1) Promotility Agents:
      - Bethanachol (Urocholine)
      - Cisapride
      - Metoclopramide (Reglan)
      - Domperodone
      - Erythromycin ?
   2) Acid Suppression:
      a. H₂ Blockers
      b. Acid Pump Inhibitors

**Proton Pump Inhibitors are the best agents for controlling esophageal exposure in GERD...**

**GERD healing dependant on level of acid control.

3. Nissen repair
***Laparoscopic fundal plication

****Esophagitis Relapses Quickly After Cessation of Therapy:
*85% relapse within 6 mos after cessation of therapy...Therefore maintenance therapy important...

***Fundal plication: effective maintance for 2 years.
Omeprazole Trial: Effective GERD maintenance 5 yrs...Same results with 11 years of Rx. May need to increase Omeprazole dosage: 20mg—40mg—80mg daily

Management of GERD: Endoscopy as guide to therapy. Identify Barrett's esophagitis:

***Surgery is not a good diagnostic test for GERD.
Join us in the quest for continued medical excellence.

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Straub designates this educational activity for a maximum of one credit hour in Category 1 of the Physician’s Recognition Award of the American Medical Association. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

You are invited to attend...

- Patient Care Conference –
  **Phytoestrogens**
  Harold A. Beck, MD
  March 2, 1999  4:30 – 5:30 p.m.
  Doctors Dining Room

  **LEARNING OBJECTIVES**
  At the conclusion, participants should be able to:
  - Describe the biochemistry and identify the dietary sources of phytoestrogens.
  - Review the published epidemiologic, clinical and basic science (mechanistic).
  - Literature on phytoestrogens and:
    - cancer
    - cardiovascular disease
    - menopause/osteoporosis
  - Design guidelines for patients interested in the clinical use of phytoestrogens.

- Friday Noon Conference –
  **Management of Pleural Effusion**
  Roy S. Adaniya, MD
  March 5, 1999  12:30 – 1:30 p.m.
  Doctors Dining Room

  **LEARNING OBJECTIVES**
  At the conclusion, participants should be able to:
  - Gain knowledge in the different etiologies of pleural disease.
  - Management of pleural effusions.
  - Understand how pleural effusion can effect lung function.

- Tumor Board Conference Luncheon–
  **Head and Neck Cancer: Basics of Diagnosis and Treatment**
  Anthony J. Cmelak, MD & Barbara A. Murphy, MD
  March 8, 1999  12:30 – 1:30 p.m.
  Doctors Dining Room

  **LEARNING OBJECTIVES**
  At the conclusion, participants should be able to:
  - Understand the basic epidemiology, histopathology, anatomy and staging of head and neck cancer.
  - Recognize the conventional therapy for the treatment for localized carcinomas of head and neck.
  - Summarize the standard and new drug and radiation therapy for patients with metastatic disease.

  We would like to acknowledge the generous Educational Grant from Bristol-Myers Squibb Oncology

- Friday Noon Conference –
  **Environment of Care Issues That Impact Physicians’ Daily Practice**
  Kevin Matsukado, Rose Arpon, Michelle Fisher, Mike Lau, & Clayton Takara
  April 16, 1999  12:30 – 1:30 p.m.
  Doctors Dining Room

  **LEARNING OBJECTIVES**
  At the conclusion, participants should be able to:
  - Understand and identify Infection Control, Tuberculosis, and Bloodborne Pathogens.
  - Learn how to prevent Back Injuries.
  - Understand Radiation Safety.

  Please call Fran Smith at 522-4471 for more information.
You Must Have Taken Great Pains, Sir: You Could Not Naturally Have Been So Stupid.

George Lundberg, MD, was editor-in-chief of the Journal of the American Medical Association (JAMA) for 17 years. Never shy of introducing politics into the JAMA, in the past the editor ran articles on physician assisted suicide, abortion, and even euthanasia. With the latest issue, Dr. Lundberg went over the edge. He chose the middle of the Congressional impeachment hearing of William Jefferson Clinton, 41st President of the United States, to publish an eight year old Kinsey Institute study on the definition of sex. The "research" was conducted at a mid-western state university, and consisted of questions centering around the definition of "did you have sex when.....". The questions varied from tongue kissing, breast caressing, on through sexual intercourse, fellatio, cunnilingus, and anal penetration. Interestingly, the study showed that our President thinks much like a college student of 1991, where only about half believe that fellatio is "having sex." E. Ratcliffe Anderson, MD (call him Andy, not Ratty) executive vice-president of the AMA, read the article and promptly told Dr. Lundberg to clean out his desk. To publish this dated study at this time in our nation's history and political climate is pure politics, and no place for the AMA.

Experience Shows That HMOs Don't Learn From Their Own Experience.

Medical giant Aetna and the entire managed care industry were rocked to their foundations by the January 20, 1999, verdict of $116 million in punitive damages brought by a jury in California. Teresa Goodrich, widow of a former deputy district attorney who died at age 44 from a rare form of stomach cancer, brought the complaint for failure to provide experimental treatment. The punitive loss followed a $4.5 million damage verdict in the same case, and represents a resounding censure of bottom-line corporate medicine instead of providing patient care. Jurors were incensed over the three year delay Aetna took in acting on the case, and also the health plan handbook - "Nowhere in 20 pages was there a single mention of experimental treatment, yet all the denials were based on that." This event echoes the 1993 case in California where a jury ordered Health Net to pay $89 million in damages for failure to cover experimental bone marrow transplant for a woman who had breast cancer. The lesson is obvious and simple. HMOs do not need legislative protection, they should merely allow their own doctors to practice quality medical care.

Honesty is the Best Policy, But There Are Too Few Policy Holders.

Talk about your creative billing, and why medicine gets a black eye! Peter J. Embriano, MD shined a light in patient's eyes and told him he was doing laser surgery. He billed for 37 trabeculectomies, 63 iridotomies/iridectomies, and 12 photocoagulations, when in fact, he did not even have the necessary instruments to perform the procedures in his offices. He billed for at least 751 endothelial cell counts that were neither necessary nor performed, and received payment of almost $54,000. He has been banned from all Medicare, Medicaid and federal health plans for five years and has surrendered his medical license. If he is sent to jail, there is no opportunity for parole.

It's Not Necessary To Buy Politicians - It's Cheaper To Rent Them.

Dentists, teachers, airline pilots, CPAs, United Postal Workers, employees of Federal Express, machinists, and even carpenters all gave more in 1998 for political action than ophthalmologists. Wake up, gentlemen and ladies, because the oil of legislation is dollars. Dollars must be spent on politicians to curry their favor, to help them get elected, and to obtain access. At a miserly average of $60/member for 1998, Academy members should be ashamed of their participation in the American Academy of Ophthalmology's political arm OPTH-PAC. Eye surgeons reap more than half of their annual income from the federal government, so this apathetic behavior is difficult to comprehend. You and I may abhor the process and resent the expenditure, but to believe that we can stand above such tawdry means is to see the airplane taxi way from the gate, or to smell the exhaust from the bus, or more precisely, to surrender your territory and your future to pretenders. For your own sake, support your local and your national PAC!

Creative Semantics Is The Key To Contemporary Government.

Almost surely you did not know that Medicare and Medicaid payments are made every year to "religious non-medical health care institutions." This weird reimbursement provision was built into the law in 1965 with the inception of Medicare in order to allow Christian Science facilities to be paid for custodial care of patients while they undergo spiritual treatment. The church argument that was accepted at that time was that its members would be forced to pay taxes for services their religious beliefs forbid them to use. This goofy mixture of church and state has been challenged by a group critical of faith healing. Children's Healthcare Is A Legal Duty (CHILD), and the case was won. It is now on appeal, and the AMA has provided a friend-of-the-court brief underscoring the difference between faith healing and medicine. The brief cites a study from the journal Pediatrics which looked at 172 cases of children between the years 1975 and 1995 who died without medical treatment because of religious beliefs. The study showed that 140 had at least a 90% chance of survival with appropriate medical care. Let us hope that the court recognizes the separation of church and state which Congress has failed to do for 34 years.

The Ku Klux Klan Has Not Produced Any Really Great Composers.

Another strange law suit is heading for adjudication in New York where 20 plus American hand gun makers are being sued. The seven plaintiffs claim that gun makers flood Southern states that have lenient gun laws and the excess flows north to states with stiffer laws like New York. They seek damages of $2 million each. If the plaintiffs win it appears likely that similar suits will spring up as agencies around the country seek to tap into deep pockets of the manufacturers similar to the attack on the tobacco industry.

Usually When You Hear The Word Bipartisan, Something Ugly Is Coming.

An unique and logical plan is currently generating with a bipartisan commission on the future of Medicare. Under the proposed plan, the government would largely step aside and the benefit program would be patterned like the health benefits program available to federal workers. It would actually let Medicare patients decide their own medical destinies. With this plan the government would provide a fixed monetary benefit which Medicare recipients could use to purchase traditional Medicare coverage or pay a monthly premium of any one of a number of competing private-sector health plans. In summary, the plan would permit seniors to purchase the kind of medical care they want—co-payment in an indemnity plan, HMO, PPO, or whatever. It probably won't fly Congress historically eschews allowing people to choose for themselves.

Heavens To PMS — Barbie Is Having A Mid-life Crisis.

Barbie doll products account for a third of Mattel's revenue, and Barbie sales fell off by 14% (only $1.9 billion in 1998). What do you do when your 40 year old breadwinner (full name Barbara Millicent Roberts) who has had over 75 careers, ranging from rock star to astronaut, is losing her edge? Last year she had breast reduction and hip widening surgery, but that didn't prove enough. Now Mattel has embarked on a new line of hip "generation girls" including a Butterfly Art Barbie with a butterfly tattoo on her tummy and a nose ring.

Addenda

- The Hawaii Medical Association finished 1998 $50,000 in the black. Thank you, Finance Committee and treasurer Chuck Kelley MD.
- Environmentalists have renamed jungles into rain forests, and swamps into wetlands. After all, who is going to contribute to save jungles and swamps?
- It is said that Domino's Pizza wagons have killed 20 people -- and that's not even counting the ones who ate the pizza.

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