

AACT*ion*

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Editor

Michael G. Holland, MD

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President's Corner Michael I. Greenberg, MD, MPH, FAACT



AACT Fiscal Health

It seems like the economy of the United States (as well as the rest of the world) has

suffered shocking and difficult downturns, and it feels like it happened suddenly, without warning. While I'm no economist, it is quite clear to me that everyone is concerned about their personal assets and savings; and rightly so. I would be remiss as your President if I did not address some of the financial and economic exigencies as they may relate to AACT. It is my job, as I see it, to keep you informed and my fiduciary responsibility as your President to do whatever I can to keep the membership updated regarding finances. I see (at least) three financially related challenges faced by AACT as follows: 1- the protection of current AACT assets; 2- a studied approach to control our operating costs; 3- the implementation of sound policies that will insure that AACT will remain a viable and vital entity, fully functional for the benefit of its members. I would like to take a moment to address each of these points.

First, I want to assure all members that AACT leadership (Executive Committee and Board of Trustees) has been cognizant of the potential for a variety of financial challenges for many months. The current economic downturn did not take us completely by surprise. Led by the joint efforts of your

Treasurer Martin Caravati and the Finance Committee led by Daniel Cobaugh, we have taken steps to assure that all AACT assets are safe and held in insured vehicles. During the past year, AACT has engaged the services of a Certified Public Accounting firm with whom we will have an ongoing relationship and have sought the counsel of professional financial advisors to help organize a sound plan for the protection of AACT assets.

Second, under the watchful eye of your Treasurer MartinCaravati, operational budgets are developed and those budgets are evaluated and approved by the Board of Trustees. The budget process is carefully scrutinized and proposed expenditures are analyzed before they are approved. It is important to understand that many of the financial obligations of AACT (e.g. NACCT hotel packages, etc) are pre-negotiated and thus are "locked in". Fortunately we have already made such arrangements for NACCT-2209 and NACCT-2010 and consequently cannot be subjected to capricious price increases that could negatively impact our finances. The control of such costs is just one way in which AACT, guided by our meeting planner, Contemporary Forums, controls costs.

Finally, it is my pledge to the members, as your President, to remain watchful and to help control costs and to attempt to develop new and creative revenue streams. Certainly the coming years will be challenging for organizations such as AACT. However, I would like to assure all AACT members that your leadership remains committed to responsibly and carefully managing the assets of AACT.

Quiz Bowl Creator and Toxicology Historical Society Leader Retires from Active Duty

Michael G. Holland, MD



John H. Trestrail III, RPh, FAACT, DABAT Clinical & Forensic Toxicologist, Grand Rapids, Michigan is surrounded by his adoring fans at his final Quiz Bowl as MC. L to R are: Kathy Wruk, John, Cindy Siptak, Barry Rumak, Mary Hilko, Al Bronstein, Lois Schaetzle, Shireen Banerji, and bending down in front Anna Seroka. (Photo courtesy of Jack Pope, MA, MA, AAPCC Communications Manager)

John H. Trestrail, III, RPh, FAACT, DABAT retired as creator and perennially jovial Quiz Bowl MC after the event in Toronto 2008. John told *AACTion* that Quiz Bowl all started after the 1986 meeting in Sante Fe, New Mexico. SPIs felt there was nothing at the meeting that was really theirs. A trivia buff all his life, he came up with the idea of the "Toxicology Quiz Bowl". The primary goal was to provide a session for the SPIs. that would teach them the history of toxicology and the impact of poisons in world culture. For the first competition in Vancouver, in 1987, were afraid they would be embarrassed if one of the team members did not know the answer to one of the questions. John assured them that they should trust him, as the vast majority of the audience would not know the answer either!

That was the beginning that led to one of the most popular events at NACCT. John nearly single-handedly ran Quiz Bowl for the next 22 years, but has decided to pass the torch, as he will soon begin "semi-retirement" in July 2009. The new moderator will be Dr. Prashant Joshi. He has been provided all files, and is currently busily coming up with questions that will tax the brains of the audience, and teach them at the same time.

QUIZ BOWL IS DESIGNED:

- (1) To encourage continued education and learning for quick recall of toxicologically related information.
- (2) To encourage good spirited competition between SPIs.
- (3) To provide a period of light entertainment for meeting

attendees.

(4) To encourage cooperation between different poison centers, **AND**

(5) To provide SPIs an opportunity to display the vast knowledge they possess, on toxicology and its related trivia.

There are two types of questions **TOSS-UPS** each worth 10 points, and **BONUSES** worth a pre-stated number of points. A correct answer on a **TOSS-UP**, gets your team a chance at the **BONUS** question, an incorrect answer on the **TOSS-UP**, and the chance to answer the **TOSS-UP** goes to the opposing teams.

The following are statistics for the first 22 Quiz Bowls:

Positions filled = 305

Number of individuals filling the positions = 237

Gender breakdown = Male 69 (29%), Female 168 (71%)

Professional background of players = RN 129 (54%), RPh 95 (40%), MD 6 (3%), Other 7 (3%)

Total # of questions used = 682 toss-ups, 358 bonus

Number of team wins = EAST (4), WEST (14) CANADA (3), AMERICAN (1)

Team average scores = EAST (87, WEST (156, CANADA (81)

The Academy expresses its sincere appreciation to John for his excellent service to our annual meetings for the past 22 years. Good luck in the future and enjoy your semi-retirement, John!

Detailed History of the American Academy of Clinical Toxicology

Mark Thoman MD, FAAC, FACMT; Historian/Archivist of the American Academy of Clinical Toxicology

Editor's note: The following is taken from the summary document of the History of the AACT that will be added to the new website. Dr. Thoman gave this presentation at the annual membership meeting of AACT on 9/14/08 at NACCT in Toronto. Pictured below is Dr. Thoman delivering the interesting history of our proud organization. He showed numerous nostalgic photos of those early years.



The American Academy of Clinical Toxicology was the brainchild of Eric Comstock, a Texas physician, who because of a specific incident had the idea and impetus to start an organization specifically related to matters of human poisoning.

The early years of the Academy were a combination of skill, luck and fortitude as well as a substantial dose of serendipity. In the early 1960's with the passage of the Hazardous Substances Labeling Act there was an immediate need for an experimental toxicology lab and it was Eric Comstock who developed such a lab in response to the Act's requirements.

Very little was available in the way of overdose information and in some cases, the manufacturer's package insert was unreliable and often inconsistent. For example, one company's recommended treatment for a specific drug overdose was contrary to the same drug manufactured by a different company, and in some cases even contraindicated!

Therefore, with a dearth of useful information, Eric's interest in toxicology grew as his evolving expertise increased. Since most serious poisonings were self-inflicted and virtually no physician felt comfortable treating these patients, a quick referral to someone more adept at toxic situations put Comstock in demand. He made himself available to ER's and hospitals in the Houston area giving

information as well as reassurance to the non-toxicologically trained physician confronted with a poisoned patient. Overtime, he was spending more time in the hospital than in his lab. On rounds he carried a special bag he created to do on the spot analysis. Ethanol and carbon monoxide, for example would take about an hour to confirm by a miniature diffusion procedure, whereas thin layer chromatography, or TLC was done on microscope slides which would take 10 to 15 minutes per test. There were other unusually bizarre diagnostic tests such as the live beetle test where a few drops of lavage fluid containing a commonly used insecticide was put into a test tube with live beetles. If the beetles died in an hour or less the test would be considered positive. Since there were virtually no ICU's and surgical recovery rooms staffed after hours, a call to Comstock necessitated a visit to the hospital for stabilization. It often became necessary for him to stay with the patient from a few hours to several days depending on the clinical situation. An example of this was a child Eric described in "Roots and Circles in Medical Toxicology: A Personal Reminiscence" (Clinical Toxicology, 36(5), 401-407, 1998). A pediatric patient with severe salicylate overdose required 28 consecutive hours of personal attendance until the patient was over the crisis. He also notes the insurance company paid \$15 for a "hospital visit."

A definitive case for Eric occurred in 1966, when he was called to participate in the care of a 2 year old admitted with an organophosphate poisoning and was being treated by an anesthesiologist in the pediatric surgical recovery room. Pralidoxime and atropine were administered to the patient without clinical improvement. A call to the CDC led to the referral of Comstock to Griffith Quinby of Wenatchee, Washington. Dr. Quinby had extensive experience treating OP poisoning and this piqued Eric's interest that a network of physicians seemed the logical way to best treat the complex issue of a poisoned patient.

In 1967, during an AAPCC meeting, new players entered the team. For his pesticide interest and expertise, Quinby was a logical choice. Daniel Teitelbaum, an internist with a background in occupational medicine and analytical toxicology was added to the team along with Jock Greame, who was the adverse reaction officer for Ciba Pharmaceuticals. Founder and editor of the new Clinical Toxicology Journal, Richard "Toby" Rappolt, rounded out the initial members of the team. This nucleus of physicians each

History of the American Academy of Clinical Toxicology

Mark Thoman MD, FAACT, FACMT, AACT Historian/Archivist

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with a different approach to medical toxicology made up the founding body of the AACT. Eric was appointed secretary treasurer of the group who, in turn placed letters and announcements in various medical publications describing the new group and inviting interested physician applicants.

In June of 1968 the "team" met to formulate a constitution and by-laws. On October 22, 1968, in conjunction with and following the AAPCC's post American Academy of Pediatrics Fall meeting in Chicago, the first AACT organizational meeting was held. Since there were a number of pediatricians attending the AAPCC, it was thought many would stay the additional day to attend the potential birth of a new organization geared primarily for the physician. The night prior to the meeting the AAP president strongly urged Comstock from pursuing the new organization. He was told that if they joined the AAPCC he would, in turn, promote and facilitate their activity in the AAPCC. He went on to say that the new organization would be discredited if organized separately. According to Eric in his Clinical Toxicology Reminiscence, "The ensuing schism persisted for a number of years."

On October 22, 1968, 52 of 87 (members of AAPCC) attended the organizational meeting. As one who was there I recall the tremendous enthusiasm many of us had who were doing the best we could with what we had in running our Poison Centers. The 1968 AAPCC meeting agenda included a number of the AACT founders: James L. Goddard, MD, Roger Meyer, MD, James L. Goddard, MD; Henry Kissman, MD, Charles Rice, Sumner Yaffe, MD; David Burkholder, PhD; John Levchuk, MS, Merritt B. Low, MD, Alan B. Coleman, MD; Paul F. Wehrle, MD; Harry Shirkey, MD; Eric Comstock, MD; Howard Mofenson, MD; John Maher, MD; Rueben Meyer, MD; Allan Done, MD; David Smith, MD; Robert W. Deisher, MD; Richard T. Rappolt, Sr., MD; Jay Arena, MD; Griffith Quinby, MD; John M. Kingsbury, PhD; Henry Verhulst.

I recall this first meeting in the Palmer House was held in a stark plain room lit solely by the light from the windows. It was a casual and informal meeting but the interest and enthusiasm was infectious. To have an organization specifically for those of us who diagnose and treat the poisoned patient was heartening. The stark unpretentious facilities on that day seemed strange until later when I found the AAP may have had a hand in the less than ideal facilities.

Besides the founders giving various facets of their own thoughts on the organization there were a number of

others who spoke such as AMA Drug Evaluation Section spokesman, Dr. Bradford Craver. Also, Dr. P. F. R. deCaires, from Parke-Davis discussed the drug industry's need for clinical data on adverse and overdose experiences. Dr. Lee Miller, from Proctor and Gamble spoke on the industrial aspects of occupational chemical hazards. During the afternoon business session, the first AACT officers were elected: Eric Comstock, president, Griffith Quinby, Vice President and Daniel Teitelbaum as Secretary Treasurer. Incorporation of the Academy came about with the help of Dr. John Pepper, of Hoffman-La Roche who persuaded his corporate legal colleagues to handle the incorporation of AACT as a New Jersey entity which was later granted tax exempt 503(c) status.

By December 31, 1968, there were 128 charter members listed below:

Frank Aldrich, MD, PhD
 C.H. Allen, MD
 Herbert Anderson, Jr., MS
 John D. Archer, MD
 Daniel Azarnoff, MD
 Paul F. Baranco, MD
 Eleanor Berman, PhD
 Paul W. Boyles, MD
 Rowine E. Brown, MD, JD
 Peter Capurro, MD
 Louis J. Cella, Jr., MD
 Paul J. Christenson, MD
 P.J. Clancy, MD
 Walter H. Comer, MD
 Eric G. Comstock, MD
 Avery L. Cook, MD
 Bradford Craver, MD, PhD
 P.F.R. deCaires, MD
 Allen J. Dennis, Jr., MD
 Norman De Nosaquo, MD
 C.H. Denser, Jr., MD
 Raoul Desjardins, MD
 O. Bruce Dickerson, MD
 Dwight Dill, MD
 Charles J. Dunn, Jr., MD
 Richard W. Dyke, MD
 R. Eklund, MD
 Herman Ellenberger, PhD
 Matthew Ellenhorn, MD
 Park Espenschade, Jr., MD
 Carl Essig, MD

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Greene Shepherd, PharmD
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Myron A. Fisher, MD
Arthur D. Flanagan, MD
Edgar M. Flint, MD
John M. Fong, MD
Richard Fraser, MD
Christopher Frings, PhD
Mary S. Furth, MD
Vincent Gagliardi, MD
Solomon Garb, MD
John Garrett, MD
Sander Garrie, MD
Jock Graeme, MD
Vernon Green, MD
Gerald Gunson, MD
Charles P. Haseltine, MD
Ray E. Helfer, MD
John B. Henry, MD
Elizabeth Hillman, MD
F.G. Hirsch, MD
L. Hobson, MD, PhD
Robert C. Hoppe, MD
R.P. Hudson, MD
Philip Huffman, MD
Glen D. Journeay, MD
K.K. Kimura, MD, PhD
G.F. Kiplinger, MD, PhD
Kinya Kuriyama, MD
Robert F. Lash, MD
James Lawson, MD
Theodore Lefton, MD
E. Leonhardt, MD
Dean LeSher, MD, PhD
J.S. London, MD
O.J. Lorenzetti, PhD
Frank J. Lyman, MD
W. McCarthy, MD
Richard McCormick, MD
Allan McNie, MD
L. Massey, MD
Henry Matthew, MD
Jacqueline Mauro, MD
Hassan Mehdod, MD
G.B. Meyers, MD
Lee H. Miller, MD
F.C. Minkler, MD
John B. Mitchell, MD
Howard Mofenson, MD
Moses Muzquiz, MD
D. Nelson, DVM, PhD

Richard O'Dillon, MD
F.W. Oehme, DVM, PhD
Ronald Okun, MD
John Palese, MD
Rafael Penalver, MD
John J. Pepper, MD
E. Plunkett, MD
Rothwell Polk, MD
Griffith Quinby, MD
R. Radeleff, DVM
Irene Raisfeld, MD
Theron Randolph, MD
Richard Rappolt, Sr., MD
William J. Rees, MD
Marcus Reidenberg, MD
Earl T. Rose, MD
Robert Rowan, MD
James L. Salomon, MD
Monroe Samuels, MD
James Schmidt, MD, PhD
J.C. Scholar, MD, PhD
Raymond Seidel, MD
S. Franklin Sher, MD
John E. Silson, MD
Dennis M. Slone, MD
David E. Smith, MD
J.T. Sobota, MD
Jacob Sokol, MD
A.A. Stein, MD
Robert J. Stein, MD
Aldolf Stern, MD
A.L. Strasser, MD
F.W. Sunderman, Jr., MD
Raymond Suskind, MD
Wilmier Talbert, MD
Daniel T. Teitelbaum, MD
Mark Thoman, MD
J.S. Tobin, MD
Paul F. Tumlin, MD
Thomas W. Tusing, MD
Julian Vilareal, MD
James Weaver, PhD
Sidney Weinberg, MD
Harry Weisberg, MD
F.W. Wilson, MD
Charles Winek, PhD
George Wise, MD
Peter Wolkonsky, MD

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The first few years were challenging with a concerted effort to describe the organization in the medical literature. The 1969 meeting, again in Chicago, had as its objectives, GI decontamination and sequestration. Featured speakers included Dr. Henry Mathew of Edinburgh and Dr. Emilio Astolfi of Buenos Aires. At the business session during this meeting, the Board established the position of Executive Director which was filled by Eric Comstock with Quinby taking over as president. Though the AACT did not have the funds to support Eric's position, his faculty appointment at the University of Texas School of Public Health and later the Department of Community Medicine partially funded his activities. By 1969, the AACT membership had reached 200 with 87% physicians and 13% non-physicians. The early years were hand to mouth. In fact, Secretary-Treasurer Dr. Frank Aldrich, colorfully described those early years in his "Looking Back" (Clinical Toxicology, 36(5),399-400) as "...an operating floating crap game until it finally found a home in Pennsylvania." Early financing was derived from dues, training programs, annual meetings, industry and \$118,000 grant from the Bureau of Narcotics and Dangerous Drugs to develop a nationwide Drug Abuse Early Warning, known today as Project DAWN.

In 1972, at the Aspen meeting, the Academy faced a major crisis. The Board was concerned with the slow rate of growth of the membership and concluded that the criteria should be expanded to include full membership to non-physicians. Though this made the non-physician welcomed and accepted, some physicians left the Academy since, it was felt, that this "dilution" effect would significantly jeopardize the chance for developing a specialty board for physicians practicing medical toxicology. Comstock resigned as Executive Director turning over the Academy affairs to the officers.

In 1974, the Academy created a subsection of AACT, the American Board of Medical Toxicology, under the president, Dr. Ron Okun. The following is a list of the first examiners appointed to the ad hoc committee:

Daniel Teitelbaum, M.D., Chairman
 Frederick Lovejoy, Jr., M.D.
 Albert Nantel, M.D.
 John Ott, M.D.
 William Robertson, M.D.
 Mark Thoman, M.D.
 Anthony Temple, M.D.

The first examination was given the following year at the annual meeting in Kansas City. The diplomats of this and subsequent exams formed the basis for the new ABMT Board of Examiners. The ABMT became a legal independent entity

incorporated in Massachusetts. ABMT, however, continued a close relationship with its parent Academy.

The Academy continued to grow over the ensuing years, necessitating communication in several phases. The Clinical Toxicology Newsletter was published in the early 1970s in Houston by Eric Comstock. In 1975 the AACT created AACT*ion* which continued as an independent publication until incorporated into Veterinary and Human Toxicology under the able guidance of V and H editor and veterinarian Fred Oehme in Manhattan, KS. AACT*ion* in 1990s took several different forms with the evolution of internet communication and ultimately V and H Tox unfortunately ceased publication.

AACT ANNUAL MEETING LOCATIONS

The annual meetings, over the past 4 decades, were in places from the metropolitan to the exotic and are listed as follows:

1968	Chicago (organizational meeting)
1969	Chicago, IL
1970	San Francisco, CA
1971	Philadelphia, PA
1972	Snowmass, CO
1973	San Diego, CA
1974	Montreal, Quebec, Canada
1975	Kansas City, MO
1976	Seattle, WA
1977	Le Chanteclair, Quebec, Canada
1978	Chicago, IL
1979	New Orleans, LA
1980	Minneapolis, MN
1981	Salt Lake City, UT
1982	Snowmass, CO
1983	Boston, MA
1984	San Diego, CA
1985	Kansas City, MO
1986	Santa Fe, NM
1987	Vancouver, BC, Canada
1988	Baltimore, MD
1989	Atlanta, GA
1990	Tucson, AZ
1991	Toronto, Canada
1992	Tampa, FL
1993	New York, NY
1994	Salt Lake City, UT
1995	Rochester, NY
1996	Portland, OR
1997	Saint Louis, MO
1998	Orlando, FL
1999	La Jolla, CA

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2000	Tucson, AZ
2001	Montreal, Quebec, Canada
2002	Palm Springs, CA
2003	Chicago, IL
2004	Seattle, WA
2005	Orlando, FL
2006	San Francisco, CA
2007	New Orleans, LA
2008	Toronto, Ontario, Canada

1990-92	Michael McGuigan, MD
1992-94	Wayne Snodgrass, MD
1994-96	William Banner, MD, PhD
1996-98	Edward Krenzelok, Pharm D
1998-00	Jeffrey Brent, MD, PhD
2000-02	Milton Tennenbein, MD
2002-04	Donna Seger, MD
2004-06	Michael McGuigan, MD
2006-08	G. Randall Bond, MD
2008-10	Michael Greenberg, MD

AACT PRESIDENTS

Academy Presidents ranged from MD's PharmD's and DVM's signifying the wide range of Academy professional inclusions. The presidents since 1968 are listed as follows:

1968-70	Eric Comstock, MD
1970-72	Griffith E. Quinby, MD
1972-74	Clinton Thienes, MD
1974-76	Ronald Okun, MD
1976-78	Jack Ott, MD
1978-80	Fred W. Oehme, DVM, PhD
1980-82	Franklin Aldrich, MD, PhD
1982-84	Mark Thoman, MD
1984-86	Helmut Redetzki, MD
1986-88	Frederick Lovejoy, Jr., MD
1988-90	Donald Kunkel, MD, JD

In summary, the Academy had an interesting and stormy start. The PowerPoint presentation "HISTORY OF THE AACT: A 40 Year History" will hopefully offer a visual aspect to the broader summary of this now well respected and formidable professional organization. And finally, as I have pored over the many articles, minutes, publications, and photographs as well as lists of charter members and Academy presidents, there are many with whom I have been in awe. Though a number are now gone, including many former AACT presidents, each left an indelible impression on the international medical landscape in the field of medical toxicology. Today we enjoy the fruits of those early, often chaotic years. So, it is with great pride as I see the outstanding accomplishments of the Academy and I salute you!

Mark Thoman, AACT Historian/Archivist

NACCT 2008 Statistics; Planning Committee Meets to Organize NACCT 2009

Michael G. Holland, MD, FAACT



The Toronto Meeting of the North American Congress of Clinical Toxicology took place September 11-16, 2008 and proved to be one of the most successful meetings to date, having 738 attendees. This

represents an increase of 49 attendees (more than 7%) compared to the New Orleans meeting in 2007.

The breakdown by declared specialty/degrees of this year's attendees are as follows:

<u>Licenses</u>	<u>Total</u>	<u>Percentage</u>
Blank	35	4.74
BS Pharm	31	4.2
DVM	4	0.54
MD/DO	371	50.27
Other	63	8.54
Pharmacist	2	0.27
PharmD	102	13.82
PhD	21	2.85
RN	106	14.36
PA/RNP	3	0.41
Total	738	

On the heels of this successful meeting, NACCT Planning Committee Chair, Elizabeth Scharman, reports

NACCT 2008 Statistics; 2009 Planning Committee Prepares for San Antonio

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that the Planning Committee met recently to begin mapping out the 2009 NACCT Congress, which will be held in San Antonio, Texas. The Committee met at Hyatt Grand San Antonio, which will serve as the headquarters hotel for this meeting. Participants at this planning session included AACT President Michael Greenberg; President-Elect Alan Woolf; Treasurer Martin Caravati; AACT Education Committee Co-Chairs Greene Shepherd and Matt Sztajnkrzyer; AACT member and former President Donna Seger; AAPCC President-Elect and AAPCC representative to the Planning Committee Richard Dart; AACT member Steve Borron; and ACMT representative Leslie Dye. In addition, AACT meeting planner, Leigh DeLaTore of Contemporary Forums, was also present. The day's activities involved a full day of discussions and planning with regard to the various sessions that will be included for NACCT 2009. In addition, meeting participants toured the

hotel to assess the spaces set aside for NACCT.

The Hyatt Grand San Antonio, is a beautiful facility that includes over 1,000 guest rooms with WIFI throughout the hotel. It is centrally located on the famous San Antonio Riverwalk where literally hundreds of restaurants and shops are within easy access. In addition, the central location of the hotel will put attendees within easy access to a number of interesting and enjoyable attractions including the Alamo, Market Square, Seaworld, the San Antonio Zoo and Botanical gardens. Visit the hotel's website for more information about the wide number of attractions that will help to make NACCT 2009 a great place to be.

More information about NACCT 2009 will be coming in the future but the Committee hopes everyone will save the meeting dates: September 21-29, 2009.



Upper left: Large meeting room at Hyatt Grand San Antonio

Lower left: NACCT Planning Committee at work

Above: Hyatt Grand San Antonio, site of NACCT 2009

Photos courtesy Michael I. Greenberg, MD, FAACT

Correspondence

Re: Drug Information Question, *AACTion* November 2008



To the Editor:

I read with interest the Drug Information Question from Jamie Nelsen, PharmD in the November *AACTion* newsletter. I disagree that the NAC effect on INR is short lived and not relevant to end of therapy

assessment. We showed in our recent paper in *Clin Tox* (Pakravan et al) that the effect of NAC on clotting factors lasts for the length of the infusion.

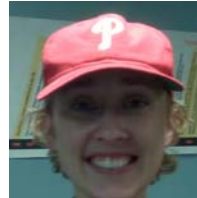
It is relatively common to get an INR of 1.2- 1.3 at the end of therapy. If ALT is normal we ignore this, since it is not liver injury causing the elevated INR.

You could, of course, also mention the effect of paracetamol itself (without liver injury) on INR- but that is another issue.

We have no experience with the oral NAC regimen, but I wonder has anyone really looked at this phenomenon in that setting.

Sincerely,

D. Nicholas Bateman BSc MD FRCP FRCP(E)
 FBPharmacolS FBTS
 Professor in Clinical Toxicology and Consultant
 Physician
 Director Scottish Poisons Information Bureau,
 NPIS Edinburgh,
 Royal Infirmary of Edinburgh,
 Edinburgh EH16 4SA



The author replies:

Pakravan, et al showed that maximum derangement occurred soon after beginning therapy (within 1-4h).

This is consistent with other literature and is what was reiterated in the newsletter: the effect is most pronounced early after therapy initiation. That being said, I do not disagree that there can be some mild changes in INR from baseline at the end of therapy. I would consider an INR of 1.2 a mild change. I am not sure how practice varies outside of the US, but in our center, early presenters (<8hr post-ingestion) who receive IV NAC, it is not standard practice to check an INR before deciding to stop therapy; that decision is most often made following the documentation of a negative APAP and normal LFTs.

How much longer do you keep someone on IV NAC with normal LFTs and no other markers of liver injury? I think the caveats and scenarios that can be presented discuss are numerous and certainly beyond the scope of a newsletter. I tried to emphasize in the last section that the decision to stop or continue treatment is not made on a single number, but is made in light of several clinical parameters and certainly the considerations of any given patient history. Dr. Bateman is correct in that APAP also can affect INR, because as he stated, that is another issue, and again, beyond the scope of a newsletter article.

In regards to the oral NAC, there is no data, and in retrospect, should have been more clearly stated. It is my inclination, based on the rationale stated, that it is not an issue. If new data comes to light, this would certainly be something to address again. I thank Dr. Bateman for his comments. I hope that we have some common ground on this issue.

Jamie Nelsen, Pharm.D., DABAT
 Clinical Toxicologist
 SUNY Upstate Medical University

CSPI Corner: Monthly Clinical Pearls of the Upstate New York Poison Center

Jeanna Marraffa, PharmD



What is the mechanism for drug induced prolongation of the QRS interval?

The clinical finding of the widening of the QRS complex duration represents prolongation of the duration of the action potential during phase 0.

Phase 0 represents ventricular depolarization and is a result of sodium influx through the fast sodium channels. Drugs that block the fast sodium channel causes delays in ventricular depolarization and subsequent widening of the QRS complex. Examples include tricyclic antidepressants, Type Ia and Ic antidysrhythmic agents (quinidine and procainamide), amantadine, carbamazepine, venlafaxine, bupropion and cocaine. In the setting of tricyclic antidepressants, the QRS complex duration was prognostic of seizures (33% incidence when QRS > 100 msec) and ventricular dysrhythmias (50% incidence when QRS > 160 msec). {Boehnert and Lovejoy} Though not evaluated in other drugs that cause QRS complex duration widening, it is reasonable to extrapolate this information from the TCAs.

What are some common drugs that induce QRS Complex Duration Widening?

Drugs and Chemicals Commonly Implicated in QRS Complex Widening

<i>Antidysrhythmics:</i>	Class Ia and Ic: Quinidine; procainamide; propafenone; flecainide; Propranolol
<i>Antihistamines:</i>	Diphenhydramine
<i>Antidepressants:</i>	Tricyclic antidepressants; venlafaxine; bupropion; citalopram; escitalopram
<i>Antipsychotics:</i>	Chlorpromazine; mesoridazine; thioridazine
<i>Local Anesthetics:</i>	Dibucaine; Bupivacaine, Cocaine
<i>Miscellaneous:</i>	Quinine, Hydroxychloroquine, Propoxyphene, Carbamazepine, Amantadine,

What treatment strategies should be employed for the patient with a prolonged QRS Complex Duration?

-Sodium bicarbonate plays an important role in managing patients with cardiotoxic effects from TCAs and other drugs with sodium-channel blocking properties. The utility of sodium bicarbonate was realized for drug-induced sodium channel blockade in the 1950s when it was given for quinidine-induced cardiotoxicity. It was quickly recognized as effective in treating TCA-induced

cardiotoxicity and has been validated in many animal models as well as human case reports. Sodium bicarbonate in the setting of TCA-induced cardiotoxicity has been shown to decrease QRS complex duration and decreases life-threatening dysrhythmias and hypotension. It is believed to do this by providing sodium and increasing the availability of sodium influx in open sodium channels and by decreasing the amount of ionized drug and thereby decreasing the amount of sodium channel blockade. Sodium bicarbonate has been shown to be effective in human case reports in treating the cardiotoxicity from other drugs that are sodium channel blockers. Cocaine is a sodium channel blocker and causes widening of the QRS complex duration; 2mEq/kg of bicarbonate has been shown to effectively reduce cocaine-induced QRS prolongation in an animal model.

Sodium Bicarbonate Dose:

1-2 mEq/kg of sodium bicarbonate should be given IV as a bolus. Higher amounts may be required to treat severe, life-threatening dysrhythmias. The end point of treatment should be narrowing of the QRS complex. Due to its short duration of effect, sodium bicarbonate infusions of 3 ampules of bicarb in 1L D5W should be started and given at 1.5-2 times the maintenance rate. Frequent monitoring of the QRS complex as well as blood pH should occur; blood pH should be maintained between 7.50-7.55

Antidysrhythmics

Lidocaine (Class Ib antidysrhythmic) is most commonly advocated as the antidysrhythmic drug of choice in this scenario. Lidocaine and other Class Ib drugs cause inhibition of the sodium channel by binding to the inactive channels and have rapid 'on-off' kinetics. Because they bind to inactive sodium channels, Class Ib agents have no effect on the rate of phase 0 or depolarization of the action potential. Conversely, TCAs and drugs discussed above, are Class Ia sodium channel blockers and have highest affinity for open sodium channels and slow the rate of phase 0 of the action potential and delay ventricular depolarization. The differences in these two classes leads to the theoretical benefit of lidocaine in this scenario due to it competing for the sodium channels and perhaps be beneficial

Procainamide and other Class Ia and Ic antidysrhythmics should be avoided because they may worsen the sodium channel inhibition and worsen toxicity

Amiodarone is the first line treatment according to ACLS 2005 guidelines for ventricular tachycardia; however, amiodarone has the ability to prolong the QT interval and this may cause worsening of cardiac toxicity in the setting

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of sodium channel blockers. There is little data regarding the use of amiodarone in this setting and should not be given until more data demonstrates that it is safe and effective

Newer treatments

Lipid emulsion has been reported in the literature to be promising in treatment of local-anesthetic cardiotoxicity. There have been numerous animal reports as well as two successful human case reports in the setting of bupivacaine-induced cardiotoxicity. There is very limited animal data suggesting the possible role of lipid emulsion in the setting of TCA induced cardiotoxicity. The proposed mechanism for its benefit is that the lipid infusion creates a lipid plasma phase that is able to extract the lipid soluble drug out of tissue sites and therefore decrease the amount

of drug binding to the sodium channels

References:

1. Weinberg G et al. Reg Anesth Pain Med 2003; 28(3): 198-202.
2. Rosenblatt MA et al. Anesthesiology 2006; 105:217-218.
3. Weinberg G et al. Anesth Analg 2004; 99:1875.
4. Weinberg G: (letter). Reg Anesth Pain Med 2004; 29:74-5.
5. Barrueto F et al. Clinical Toxicology 2005; 43(3): 147-149
6. Boehnert & Lovejoy. NEJM 1985
7. Liebelt et al. Ann Emerg Med 1995
8. Dorian P et al. N Eng J Med 2002; 346:884-890

Upcoming Meetings

NACCT 2009
September 21-26
San Antonio, Texas
www.clintox.org

XXIX International Congress of the European Association of Poisons Centres and Clinical Toxicologists
May 12-15, 2009
Stockholm, Sweden
www.eapcct.org/show.php?page=congress

AAPCC 2009 Mid-Year Directors Meeting
February 24/25, 2009
Albuquerque, New Mexico
<http://www.aapcc.org>

ACMT Spring Meeting
March 27/28, 2009
San Juan, Puerto Rico
<http://www.acmt.net>

Society of Toxicology (SOT) Annual meeting
March 15-19, 2009
Baltimore, MD
www.toxicology.org/ai/meet/am2009/

American Occupational Health Conference
April 26-29, 2009
San Diego, Ca
www.acoem.org/conferences.aspx

Preventive Medicine 2009
February 11-14, 2009
Los Angeles, CA
www.preventivemedicine2009.org/

Save the Date: AACT will be offering a post-meeting Medical Review Officer's (MRO) Training Course at the end of the 2009 NACCT Meeting in San Antonio, TX. The course will comply with training pre-requisites of the US DOT for certification as an MRO for workplace drug testing reviews. The course will be September 26 & 27, 2009. Watch for further details in the next AACT*ion* issue!