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Conference Report:

American College of Emergency Physicians (ACEP):

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The 2004 Scientific Meeting of the American College of Emergency Physicians (the equivalent of ACEM) hosted Emergency Physicians, Paramedics, Nurses, and healthcare workers from related fields, including some Urgent Medicine Physicians (US equivalent of Accident and Medical Practitioners). There were about 6000 attendees, and thousands more were probably involved in running the event. Although there were at least five other doctors I knew there, the conference was so large that I saw only two of them during the four days it was held. At the same time, there was a similar sized Neurosurgical Meeting in the convention centre across the road.

A large part of the conference was devoted to the political meetings of the College. Although I didn't attend any of these sessions, I noted some familiar subjects, including malpractice (medical error), government funding (GMS subsidies), insurance payments (ACC), and drug costs. As the conference was held just before the US presidential elections, quite a lot of activism was evident.

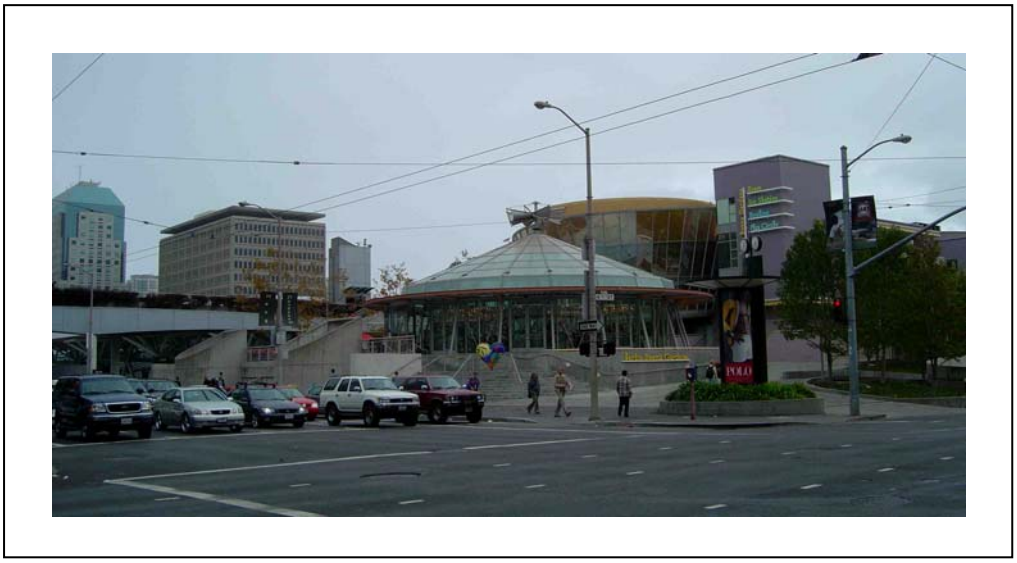

Fig. 1. The Moscone Convention Building in San Francisco where the conference was held.

Although there was an exhibition of current research, which continued for the duration of the conference, the main emphasis was on the educational sessions which were basically reviews of various topics. There was a very wide range of subjects covered and one was spoilt for choice. The overall impression of US Emergency Medicine is that despite television programmes such as 'ER', it is very similar to New Zealand Emergency Department work. The issues discussed were mostly relevant to New Zealand accident and emergency practitioners, but a major difference was the emphasis on bullet wounds and, more surprisingly, the ease of getting radiological investigations done – presumably due to the different remuneration system in the US. I also attended a couple of the workshops, which incurred an extra cost – about NZ$100 each.

Ophthalmology Workshop

A workshop on Slit Lamp use taught me a few things I didn't know, but the workshop was mostly interesting for the arguments over technique between the instructors. There was much

emphasis on intraocular pressure (IOP) testing in the emergency situation, the standard of care for which seems to be a device called the ‘Tonopen XL’ which provides a foolproof 5-second automated IOP measurement with little discomfort. This device costs about US$2500 but, by the look of it, is very easily misplaced.

Dental Techniques

The other workshop on dental techniques that I attended must have been a financial loss to the conference as the consumables that were provided would have cost more than the fee. However, the instruction was of a very high standard and techniques were taught by simulation as thoroughly as they could have been. Unfortunately, I was paired with a doctor who had previously been a dental assistant and was a little quicker to pick up on things.

For intraoral anaesthesia, a benzocaine gel was recommended as it is a lot faster acting than lignocaine and provides anaesthesia of sufficient depth to perform some procedures or to place submucosal injections.

New Drugs of Abuse – Coming to a Town Near You

Considering its psychedelic past, it is not surprising a lot of new drugs of abuse make their debut in San Francisco. Some trends in drug abuse that were reported included:

Tryptamines (natural and synthetic hallucinogens)

- These substances include alpha-methyltryptamine (AMT) and 5-methoxy-N, N-diisopropyltryptamine (5-MeO-DIPT; also known as ‘Foxy’ or ‘Foxy-Methoxy’)
- Abusers present with sympathomimetic signs plus hallucinations, and there is a characteristic waxy plasticity of the extremities.
- Treatment is supportive with benzodiazepines.

Ketamine (liquid – dried and snorted)

- Abusers present with hallucinations and a floating sensation that lasts approximately one hour
- In some cases, psychosis and agitation may be present

- Treatment is again with benzodiazepines.

Herbal Dietary Supplements (mostly ephedrine-containing; *NB.* already in New Zealand)

- Toxicity is characterised by pressor, inotropic and chronotropic effects
- Some deaths have been reported.

Herbal Sedatives

- Kava, which has a strong synergy with benzodiazepines, is currently trendy
- Valerian is also taken in North America and has similar effects to Kava.

Yohimbine (also known as 'Herbal Viagra' or 'YoYo')

- Abusers present with sympathomimetic signs with hypertension and occasionally acute tubular necrosis.

Herbal Hallucinogens

- *Nutmeg:* abusers present with gastrointestinal toxicity and abdominal pain. Liver injury has also been reported
- *Salvia divinorum:* bad trips are common with this herb
- *Morning glory (and relatives):* seeds of these herbs contain lysergic acid.

Regional Anaesthesia

Reduction of Local Infiltration Pain

A preliminary study was presented showing that local infiltration pain can be significantly reduced by concurrent stimulation proximal to the infiltration site, i.e. by brushing the forearm when anaesthetising the hand.

Flexor Tendon Sheath Digital Block

There was also discussion of the 'Flexor Tendon Sheath Digital Block' or 'Transthecal Digital Block' for anaesthesia of the finger. Features of this technique include: (1) an entire digit can be anaesthetised with a single injection; (2) only a small amount of anaesthetic agent is required; (3) the onset of action is rapid; and (4) the success rate is high. The method, which was proposed by Hill et al. (*Ann Emerg Med* 1995;25:604-7), is as follows:

- Supinate the hand
- Locate the flexor tendon at the metacarpophalangeal joint
- Insert the needle perpendicular to the skin until resistance is felt
- Should gyrate when the intraphalangeal joint is flexed actively
- Attach a syringe and inject 2 to 4 mL of local anaesthetic solution. If there is resistance, withdraw carefully.

Biers Block

This was described by the presenter as a new and excessively complex procedure from the UK!

Evaluation of Syncope

In a session on syncope, critical steps in the evaluation of patients presenting with this symptom that were emphasised were:

- *Examination:*
  - If signs of congestive heart failure (CHF) are present, mortality is as high as 39% to 59%
  - Orthostatic hypotension is present in 40% of asymptomatic individuals >80 years of age and 23% of those <60 years of age
- *Investigations:*
  - ECG: look for ventricular tachycardia (VT) >2 beats; sinus pause >2 sec; bradycardia with symptoms; atrial fibrillation (AF), especially a slow ventricular response; 2nd or 3rd degree heart block; and pacemaker malfunction
  - Blood tests: sodium, glucose, haemoglobin
  - Holter monitoring: 2% of patients have arrhythmias associated with near syncope.

Abdominal Imaging

In patients presenting with acute bowel symptoms, critical decisions in abdominal imaging that were emphasised were:

- Plain films for subacute bowel obstruction
- Ultrasound examination for:

- Gallstones (biliary tree)
- Screening for abdominal aortic aneurysm
- Screening for appendicitis
- Suspected pregnancy

- Computerised tomography (CT) scanning for everything else (rectal contrast CT for 'difficult' appendixes).

Water-related Environmental Emergencies

In a session on drowning/hypothermia, it was pointed out that the four most common causes of death in cold water, in order of timing after immersion, are:

1. Sudden cardiac arrhythmia
2. Uncontrollable hyperventilation leading to drowning
3. Loss of coordination leading to drowning
4. Hypothermia.

Although 50% of those immersed in icy water do not survive 15 minutes, some are still alive at 90 minutes. Hence, the presenter stated that he would modify the old adage of *"they're not dead until they're warm and dead"* to *"they're not dead until they're warm and dead unless they're dead"*. It was suggested that the best predictor of survival is whether they have a pulse at arrival in the Emergency Department after basic life support.

Flank Pain Review

The most common pathology in patients presenting with flank pain is renal stones. The differential diagnosis includes:

- Adnexal masses (2.5% of patients)
- Cholecystitis (1.3%)
- Appendicitis (1%)
- Renal masses (1%)
- Pyelonephritis (1%)
- Diverticulitis (0.5%)
- Abdominal aortic aneurysm, aortic dissection, and renal arterial aneurysm (0.18%).

Risk Factors for Renal Stones

Risk factors for renal stones include:

- A previous stone – the recurrence rate is 15% after 1 year, 35% after 5 years, and 50% after 10 years
- Male gender
- Family history of renal stones
- High dietary protein and calcium intake
- Low water intake
- Ingestion of apple/tomato/grapefruit juices, phosphated soft drinks (less risk with tea, coffee, wine)
- Various systemic illnesses (including medullary spongy kidney, type 1 renal tubular acidosis, diabetes, hypertension) and vasectomy.

Diagnostic Tests

- Imaging is advisable:
  - For new stone patients
  - When the diagnosis not clear
  - If a stone is suspected in a patient with fever.
- Urinalysis – haematuria is present in 70% to 88% of patients
- Serum creatinine (for new stone patients, stones >5 mm in diameter, patients with broad differential diagnoses, patients with complications).

Preferred Imaging Methods

The preferred imaging methods are:

- Non-contrast CT with 3 to 5 mm cuts. An exception to this is patients receiving the protease inhibitor indinavir which is a common cause of radiolucent kidney stones with minimal obstructive signs (important in San Francisco)
- Plain film – patients with known radio-opaque stones and a typical history
- Ultrasound – unstable or pregnant patients and those with stones too large for scanning.

Treatment

- Hydration – replace losses and then maintain hydration level; overhydration is not useful

- Nonsteroidal anti-inflammatory drug (NSAID) ± sedation
- Following discharge, fluid intake should be >2 L/day
- The typical time to pass stones is 8 days for those 2 mm in diameter, 12 days for those 2-4 mm in diameter, and 22 days for those >4 mm in diameter.

Urology Referral

Referral to a urologist is advisable for those with:

- Renal failure, sepsis, complete obstruction
- Stones >5 mm in diameter
- Uncontrolled pain.

Off-site Events

I decided I would attend one drug company-sponsored dinner but unfortunately these were mostly breakfasts starting at 6.30am which didn't suit my diurnal rhythms. When I did go to a dinner on cardiac problems, I couldn't comprehend why it seemed full of extremely well dressed people extolling the virtues of living in Texas. In fact, I'd taken a wrong turn and was at a dinner party that was recruiting for a chain of Texas Hospitals. When I did get to the right venue, the dinner turned out to be very similar to a large drug company-sponsored dinner in Auckland.

Fig. 2. A San Francisco tramcar.

What of the city of San Francisco? While I found it to be much more pleasant than Los Angeles, the weather was more variable. I cancelled a number of outdoor activities on one day as the late night weather forecast was for a severe storm coming through, but this turned out to be a few early morning showers. There was plenty to see and do and a good public transport system to get around the city. Unfortunately, like some other US cities, taking a one block wrong turn while walking back to your hotel can have you fearing for your valuables and/or life.

In summary, the ACEP conference was very large and, in true American style, occasionally somewhat over the top, but it was very good value and surprisingly relevant to local practice. I can see myself attending another meeting in a few years' time. The 2005 ACEP conference is to be held in Washington and will undoubtedly be an even bigger event.

Fig. 3. An unusual bus shelter advertisement spotted in San Francisco.