Journal of the Accident and Medical Practitioners Association (JAMPA) 2006; Vol 3. (No. 2)

Conference Report:

Mediterranean Emergency Medicine Conference (MEMC):

Nice, September 2005

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The Third Annual Joint Conference of the European Society of Emergency Medicine and The American Academy of Emergency Medicine took place at the Acropolis Conference Centre in Nice, France in September 2005. This meeting was designed to bring together Emergency Medicine specialists from both sides of the Atlantic. Four AMPA members attended this year along with about 1000 physicians from the USA, most countries of Europe, and a few others from Australia and New Zealand. Approximately 10% of the conference was conducted in French and the rest in English, but translating headphones were available for those out of their linguistic depth. The stereotype of French chauvinism

towards language and disdain towards English speakers was not in evidence, either at the conference or in the city.

Nice was originally a Greek trading settlement about 2500 years ago (hence the name of the Conference Centre) but has since become part of the continuous urban area of the Cote d'Azur that stretches several hundred kilometres across southern France and into Italy. It is densely populated and congested, but 20 kilometres inland are rural areas that don't seem to have changed much in 100 years.

Fig. 1. The Acropolis Conference Centre, Nice.

The conference began at the time of Hurricane Katrina in the USA and a number of delegates and speakers were not able to get to Nice or had to return home to assist.

Workshops prior to the conference included Ultrasound, Ventilation, Wound Care and Paediatric Emergency Techniques. The main part of the conference started with a keynote address by the very suave Mayor of Nice, and this was followed by a review of the history of the Mediterranean Emergency Medicine Conference by the organizing committee. Essentially, this joint conference of the American and European colleges arose from a desire

of US Emergency Physicians to be able to get away to the Mediterranean on conference leave.

Fig 2. Local artist's impression of a Doctor prior to attending the Conference.

The scientific and educational programmes included state-of-the-art lectures, workshops on points of controversy in Emergency Medicine, paper presentations, and poster presentations. This report summarises a few items that I thought might be of interest.

Infectious Diseases

Tetanus

The workshops on infections were well attended by New Zealand delegates who had never encountered most of these illnesses. Although tetanus is one infection that we see, its occurrence is much lower than that described by speakers from India. The descriptions of tetanus wards made rabies (the previous lecture) seem mild. An update of the pathophysiology of the disease reminded us of the extraordinary resilience and ubiquity of tetanus spores and their slow but inexorable progression, which may cause disease months after the injury and death rates in the region of 50% to 85%. It was a timely reminder to enquire about tetanus immune status!

Meningitis

Once again, the urgency of antibiotic administration was emphasised with a reminder that although the CSF may be sterile within 2 hours of antibiotic administration, the former presence of meningococci may still be detected by PCR after this time. Newer therapies that are showing promise include recombinant bactericidal/permeability-increasing protein (rBPI) and recombinant human activated protein C. Predictably, the American speaker said the Meningococcus B vaccine looked promising, but no trials had been completed to his knowledge.

Cervical Spine Injuries

This perennial Emergency Medicine Topic was subtitled “How to never miss another Cervical Spine Fracture”, but the hoped for infallible approach did not eventuate. The history from the 1950s, when Rogers first described iatrogenic cervical spine injuries, up to the most recent cervical spine rules was outlined. The generally accepted risk factors for significant spinal injury are:

Highest risk accidents:

High velocity blunt trauma

Significant motor vehicle accident

Falls/diving accident

Blunt trauma above the clavicle

Predisposing patient factors:

Age >65 years

Pre-existing spinal conditions:

- Ankylosing spondylitis
- Rheumatoid arthritis, etc.

We were reminded of the downside of cervical immobilisation – aspiration risk, respiratory limitation, pain, pressure necrosis and increased intracranial pressure.

Cervical Spine X-ray vs Computerised Tomography (CT)

Balancing the increased cost and radiation dose of CT against its greater sensitivity, it was considered that CT should be reserved for high-energy injury mechanisms or when its use had already been contemplated for another reason. Cervical spine x-rays are still cost effective as a screening modality.

Flexion – Extension Views

These are suggested to still be useful in persistent neck pain despite apparent radiological normality which has not settled with a semirigid collar. Of course, patients need to be able to flex and extend 30 degrees, so there will be a significant group who are unable to have this examination.

SCIWORA *(Spinal Cord Injury Without Radiological Injury)*

In the past, this has been regarded as mainly a paediatric injury. Profound or progressive paralysis occurs in the first 48 hours. Magnetic resonance imaging (MRI) has shown this to be due to haemorrhagic transaction.

Motor Vehicle Entrapment

A European consultant in motor vehicle crashes covered MVA scene management and discussed entrapment issues. Videos of airbags deploying, seatbelt pretensioners grabbing, and anti-rollover devices extending during rescue were sobering reminders that the danger is not over when the vehicle comes to a halt. There are increasing numbers of potentially hazardous safety devices in newer vehicles. Some of the dangerous pieces of hardware are located in areas remote from the area of deployment, so this possibility should be borne in mind during extraction.

In addition, the equipment used in extraction such as the “Jaws of Life” is not without its dangers, e.g. the cutting apparatus and the very high-pressure hydraulic lines which, if they malfunction, have the potential to cause severe injury. The good news is that many crashes

that had a high likelihood of death as little as 20 years ago are now regarded minor/moderate injury crashes.

Anorectal Emergencies

Anal fissures were highlighted as a problem where it may be worthwhile looking for an underlying cause – in particular HIV infection, trauma, and high rectal pressures during defecation. We were reminded that most anal fissures heal spontaneously and that sitz baths aid comfort, though not necessarily healing. Stool softeners and a high-fibre diet will reduce pressure. If topical glyceryl trinitrate (GTN) is used to relieve spasm, the patient should be warned of the possibility of headache.

For internal haemorrhoids, a plea was made not to allow overuse of topical corticosteroids, as skin atrophy has been reported. Surgical excision in the clinic was urged for external haemorrhoids but not for paediatric, pregnant or immunocompromised patients. No particular procedure (e.g. incision & drainage, window or X-shaped incision) was promoted as best.

For a pilonidal sinus/abscess, it was emphasised that a rectal examination *is* necessary to exclude an anorectal abscess and that, if found, these patients should be hospitalised as they may become very sick.

Bronchiolitis

The current evidence on the treatment of bronchiolitis was reviewed. Key points made included:

- *Ipratropium* has generally not been shown to be useful in recent trials
- *β_2-Adrenoceptor agonists* such as salbutamol appear to decrease wheeze but do not seem to be able to consistently produce clinical improvement [1]
- *Nebulised adrenaline* reduces hospital admissions and improves O_2 saturation at 60 minutes, but recent studies have suggested this is a short-term effect only

- *Corticosteroids* have been shown to have no benefit for acute viral bronchiolitis in infants and young children, according to a recent Cochrane review [2]
- Heliox (helium-oxygen mixture) appears to reduce the work of breathing in bronchiolitis [3].

Asthma

Two presentations were given on asthma. The first by a Saudi Emergency Medicine specialist reviewed the evidence in paediatric asthma and, in general, was non-controversial. The second, by Dr Richard Nowak, an Emergency Medicine specialist from the USA, reviewed drugs in severe adult asthma with a skeptic's eye. Medications discussed included:

- *Oxygen*: one trial that suggesting lower than maximal oxygen doses were beneficial was presented
- *Intravenous β_2-agonists*: these drugs have not been shown to be additive to inhaled β_2-agonists in adults, and may reverse otherwise beneficial regional pulmonary hypoxic vasoconstriction
- *Ipratropium* – this drug is considered to have a clear additive effect to inhaled β_2-agonists
- *Corticosteroids* reduce hospital admissions. Inhaled corticosteroids may work in 2 hours as compared with the widely quoted 4 hours for oral and intrravenous corticosteroids
- *Aminophylline's* effect is equivocal in adults, although it is beneficial in children
- *Magnesium* was considered useful in a Cochrane review, but more recent studies have suggested that it isn't
- *Heliox* should, theoretically, be of benefit but no improvement in function has been shown, and 30% oxygen in helium may produce hypoxia.

Dr Nowak's harshest judgment was reserved for the manufacturers of β_2-agonists, including salbutamol (albuterol), which are produced as racemic mixtures. It is known that the R-isomer of salbutamol is therapeutic while the S-isomer is not. Studies were cited to show that the S-isomer is pro-inflammatory and causes both smooth muscle constriction and chronic changes in airways. His view on the role of inhaled corticosteroids is that they are necessary to minimise the injury caused by the S-isomer, and that the epidemic of deaths prior to the global use of inhaled corticosteroids was due to the effect of the S-isomer. Dr Nowak supported the use of R-salbutamol (levalbuterol; available in the USA) for which he produced data showing it to be more effective. He denied any conflict of interest in this drug's promotion.

Lightning Strike

This topic was covered by an American physician from a high lightning-strike area. There are five mechanisms of injury:

- Direct strike (usually to the head)
- Contact with an object conducting a lightning strike
- Side flash from a strike
- Ground current from a nearby strike
- Blunt trauma secondary to sudden expansion of heated air and falls.

The differences from electric shock and electrical burn were highlighted:

- Cardiac arrest is usually asystole
- Dysrhythmias are common and may include a prolonged QT segment
- A secondary vasospasm may occur in the extremities
- CNS depression may result in loss of consciousness, prolonged apnoea and amnesia
- A secondary iridocyclitis may mimic blown pupils
- There may be fractures and dislocations from blunt trauma and muscle contraction
- Tympanic membrane rupture is quite common
- Skin burns are of the direct “rosette” configuration around the entry point or may have a tree-like shape. In appearance and depth, they are like a liquid that was burnt or evaporated by heat. They seldom involve deep tissues.

Treatment follows the usual ABCs, with consideration of the following:

- Patients in cardiorespiratory arrest should be resuscitated first
- Fixed dilated pupils may not signify brain death
- Asystole is more likely to be convertible to a rhythm with output than in other scenarios
- Internal injury is more likely to be due to blunt trauma rather than electricity.

In the long term, residual disability is quite common and the most common post-acute treatment is ENT or ophthalmology referral.

Further reading:

Whitcomb D, Martinez JA, Daberkow D. Lightning injuries. *South Med J* 2002;95(11):1331-4.

In summary, the Mediterranean Conference was useful in bridging the differences between North American and European Emergency Medicine specialists and in giving a more balanced view than the conferences of the two sponsoring organisations (albeit without Asian/Australasian input). Future conferences will take place at sites of great touristic or cultural significance. In 2007, the conference will be held on September 14-18 at Sorrento in Italy, which will offer the opportunity of visiting Pompeii and Capri.

Fig 3. An evening on the Promenade des Anglais, Nice.

References

1. Flores G, Horwitz RI. Efficacy of beta2-agonists in bronchiolitis: a reappraisal and meta-analysis. *Pediatrics* 1997;100(2 Pt 1):233-9.

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3. Gupta VK, Cheifetz IM. Heliox administration in the pediatric intensive care unit: an evidence-based review. *Pediatr Crit Care Med* 2005;6(2):204-11.