STATE CORONER VICTORIA

CORONIAL COMMUNIQUÉ

Clinical Liaison Service – Connecting Clinicians with Coroners

VERITAS OMNIA VINCIT

State Coroner's Office and Victorian Institute of Forensic Medicine (Monash University, Department of Forensic Medicine)

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Contents

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Copies are also accessible on the web at: **http://www.vifm.org/communique.html**

Next Edition: May 2006

Editorial

Welcome to the first issue of the Coronial Communiqué for 2006. You will note that our Publication Team has changed as Megan Bohensky moved to the team at the National Coroners Information System at the Coronial Services Centre. Megan's enthusiasm and high standard of work while with the Clinical Liaison Service will be greatly missed.

We have two new staff members to introduce and welcome. Firstly, Barbara Thorne is employed as the Manager of the new Specialist Investigation Unit that incorporates both the Clinical Liaison Service and the Work Related Liaison Service. Her vision and managerial skills have already had positive impacts on our group. Secondly, Zoë Davies is employed as a Research and Projects Officer. Part of her role will be to manage the publishing of future editions of the Coronial Communiqué. Her organisational and data management skills are already highly valued.

This edition has three case summaries that explore a variety of subjects including:

- The standardisation of the coronial investigation of deaths that are related to falls in hospitals and aged care facilities
- The use of CT scans in head injured patients
- The training required for doctors that perform potentially dangerous procedures on patients

We would also like to inform our readers that CLS received a further twelve months of funding from the Department of Justice. These funds will support our activities through to the end of the '06/'07 financial year.

As you read this issue please note that there are two Investigation Standards designed to assist and streamline coronial investigations into deaths that are related to falls and miscommunication of radiological findings. You can access these standards by following these links:

1. Investigation Standard for deaths related to miscommunication of Radiology Findings http://www.vifm.org/communique.html

2. Investigation Standard for deaths related to falls in hospitals or aged care facilities http://www.vifm.org/inclsfalls1.html

DISCLAIMER

All cases that are discussed in the Coronial Communiqué are public documents. A document becomes public once the coronial investigation process has been completed and the case is closed. We have made every attempt to ensure that individual clinicians and hospitals are de-identified. However, if you would like to examine the case in greater detail, we have also provided the coronial case number.

Standardising the Investigation of Falls

Case Number: 3721/03

Case Précis Author: Dr Adam O'Brien, Clinical Liaison Service

Clinical Summary

A 94 year old female had a past medical history of a hip replacement, osteoarthritis, transient ischaemic attacks and short term memory loss, but she was independent and ambulated with a walking frame at an Aged Care Facility (ACF).

The deceased had a fall at the ACF which was investigated by the facility. She was found to have a fractured pelvis, and was admitted to hospital for six weeks of bed rest. She became confused and refused to eat or drink. Attempts at nasogastric and intravenous hydration were ineffective, and she was ultimately placed on a morphine infusion a few days before she died.

At the time of the fall, the Group to which the said ACF belonged did not have a formalised, co-ordinated program for management of risks, including the risk of their clients falling. Rather, the individual ACF's possessed individual risk management programs including versions of the Falls Risk Assessment Tool (FRAT) pack. It was conceded by the Group that a formalised process was necessary, and accordingly appointed a Risk Management Coordinator to look at risk management and falls in particular.

The ACF had undertaken a falls risk assessment on the deceased eight months before her death using the FRAT pack. She had a score of 14 out of a possible 20 and therefore placed in the medium risk category rather than high risk (for residents who received a score of 15 or more). She was not reassessed for falls risk again.

Coronial Comments

During 2004 the State Coroner's Office recognised the need to place a greater emphasis on the investigation of falls in hospitals and ACF's. With the assistance of the Clinical Liaison Service (CLS) housed at the State Coroner's Office, a number of interested agencies and experts developed the "Coroner's Falls Management Investigation Standard". Its intention was to inform hospitals and ACF's about the type of information the coroner would need to investigate deaths resulting from falls. This information included their falls management plan, risk assessment process including details of the deceased's risk assessment, and improvements adopted following the fall.

The Victorian Quality Council recently released an information pack called "Minimising the Risk of Falls & Fall-related Injuries Guidelines Pack – For Acute, Sub-acute and Residential Care Settings."

Response of Facility

The "Coroner's Falls Management Investigation Standard" assisted the ACF in moving from a simple scoring system to a team approach in managing the risk of falls with the development of a "Care Plan."

Recommendations

Consideration is given to developing a comprehensive falls management program, guide or Code of Practice that applied to all ACF's.

RECENTLY CLOSED CASES

2139/99: A young patient died of complications post liver transplant. The need to get early advice from experts, the Kings College Criteria and listening to relatives were discussed.

1228/00: An elderly patient died from pneumonia following surgery for a fractured hip after a fall.

629/02: An elderly female involved in an MVA suffered a sternal fracture that was not recognised on initial x-rays. Recommendations focussed on streamlining hospital systems for correctly examining and reporting abnormal x-rays.

1016/02: A male with schizophrenia and depression killed himself on a railway track. The coroner's recommendations included actively seeking out patients who abscond or fail to return from leave. The Health Service was commended for conducting formal reviews following critical incidents.

1452/02: A female died following a postpartum haemorrhage with disseminated intravascular coagulation. An expert considered the most likely cause of death was an amniotic fluid embolism. It was noted that there was no single diagnostic test to diagnose the condition.

1968/02: A male presented with a pericardial effusion one day after insertion of a permanent pacemaker. He suffered a cardiac arrest and died while waiting to have an emergency aspiration of the pericardial effusion. An expert opined that hypotension in a patient with a known pericardial effusion should be treated as an emergency and the delay in the availability of a radiologist was a significant deficiency in management.

3192/02: A female was admitted to hospital for arthroscopic knee surgery and died five days later from complications of deep vein thrombosis. The Coroner noted that although she did not receive anti-coagulants post-operatively, she had been administered Clexane pre-operatively and given Clexane following presentation with DVT symptoms, which is consistent with MIMS advice.

3236/02: A young female was found deceased in a park from multi-drug toxicity. She had been prescribed diazepam, morphine, metoclopramide, tramadol, amitriptyline, Panadeine Forte and aspirin to relieve organic back pain. The death was thought to be intentional and the pain management found to be appropriate although the treating clinician hadn't identified recent signs of depression.

3291/02: A female with depression hung herself on her property. The need for sub-acute facilities to manage people with depression was discussed.

3302/02: An elderly female presented following a collapse at home and died shortly after of an acute aortic dissection. She had presented to a different hospital three days earlier and given a thrombolytic.

194/03: A female with schizophrenia was given injections of acuphase, droperidol and Cogentin and placed in seclusion following an agitated and aggressive episode. She was found dead after 12 hours in the seclusion unit. Discussions focussed on the family's concerns with medical / psychiatric management being found to be adequate.

629/03: An elderly male was admitted to hospital following an MVA with fractured ribs. A fractured spine was discovered on CT the following day despite the initial x-ray being normal. The Coroner recommended that where an x-ray is suboptimal further imaging by way of CT or MRI must be undertaken.

980/03: A female with schizoaffective disorder and respiratory disease died following the dislodgement of her tracheostomy tube. Recommendations included research into the development of an alarm system to indicate when a tracheostomy tube became dislodged or blocked and the establishment of communication protocols between a health service's psychiatric and acute facilities.

1974/03: An adolescent male with schizophrenia hung himself while on a Community Treatment Order. Discussion focussed on the side effects of Zoloft in younger patients and the decision to discharge him home rather than transferring him to an adolescent psychiatric unit.

2357/03: An elderly male with dementia was admitted to hospital following incidents of aggressive and hostile behaviour. He subsequently died of peritonitis resulting from a ruptured sigmoid colon. Recommendations related to appropriate documentation in medical notes and greater consideration given to family input.

2935/03: An adolescent female under DHS care hung herself in her home. The Coroner's discussion considered the lack of continuity in care by case workers, as well as the decision not to apprehend her after she absconded to buy drugs.

3093/03: An elderly male died of a subdural and intradural head injury following a fall at a rehabilitation facility. The Coroner commented on the lack of a specific falls management protocol in place, despite the man's history of falls and disorientation. The lack of neurological observations following the fall may have slowed the diagnosis.

3353/03: A farmer with COAD died from lung cancer. A chest x-ray done sixteen months earlier missed a small mass. Although the radiologist admitted the mistake the Coroner was unable to decide if it was a causal factor in his death.

3452/03: A young male with bipolar illness hanged himself. The precarious balance that mental health professionals must achieve between suicide risk management and providing a comfortable environment conducive to treatment was discussed.

3495/03: A male with schizophrenia and poly-substance abuse died from self-inflicted carbon monoxide poisoning. Recommendations included the implementation of regular reviews of patients in community psychiatric services by a Consultant Psychiatrist, engaging the family in treatment plans and countermeasures to reduce the mortality rate by carbon monoxide poisoning.

4053/03: A mandatory inquest was held into the death of a woman with Down's syndrome, chronic epilepsy and chronic hepatitis who had developed pneumonia that required intubation. Her family decided that she would not be re-intubated if she developed stridor a second time.

1405/04: An elderly female fell and fractured her pelvis and was taken to an ED and then transferred to a private hospital. She died from ischaemic heart disease with a contributing factor of blood loss from her pelvic fracture.

1478/04: A female with long-standing schizophrenia and substance abuse killed herself by jumping off a balcony despite reasonable psychiatric care.

2869/04: An elderly female with depression was admitted to hospital from an aged care facility. Following two cardiac arrests she was transferred to a psychiatric facility where she died from IHD and COAD.

4398/03: A middle aged male with a history of illicit drug abuse had new onset schizophrenia hanged himself following a domestic disagreement despite regular psychiatric assessments and stabilisations.

1300/05: A young male with depression killed himself by jumping from Westgate Bridge. Recommendations related to emergency responses to persons contemplating jumping from the bridge.

What Level of Training for Dangerous Procedures is Adequate?

Case Number: 1125/04

Case Précis Author: Dr Adam O'Brien, Clinical Liaison Service

Clinical Summary

Mr W, aged 76, had a past medical history of ischaemic heart disease, chronic obstructive airways disease and carcinoma of the larynx.

He presented to a teaching hospital with right chest pain, shortness of breath, productive cough and haemoptysis associated with a fever. Diagnoses of community acquired pneumonia with secondary haemoptysis and acute on chronic renal impairment were made and he was treated with intravenous antibiotics. He appeared to gradually improve with respect to his renal function and underwent a pleural tap without complications. At that time no organisms were grown from the fluid but he remained intermittently febrile and suffered intermitted haemoptysis and ongoing shortness of breath. A subsequent ultrasound showed he had a large pleural effusion on his right side. A right sided intercostal catheter was inserted by the cardiothoracic registrar and was reported to drain dark blood. The patient began to vomit blood. He arrested soon after and died later.

Coronial Investigation

An autopsy was performed at the treating hospital and subsequently the death was reported to the Coroner via the pathology department of the hospital following the findings at autopsy. The cause of death was due to pulmonary haemorrhage and injury from the intercostal catheter. The forensic pathologist stated that "this man had significant underlying respiratory disease and cardiovascular disease it does not appear from the records that he was expected to die at this time. Damage caused by the penetration of lung substance by a chest drain tube would be capable of causing sufficient injury to lead to substantial haemorrhage, and haemorrhage in a setting of a severely compromised cardiovascular system and respiratory system could indeed prove fatal."

It was found that the cardiothoracic registrar had inserted over 200 intercostal catheters without complications.

The Director of Medical Services stated that there was no specific database for complication rates of inserting intercostal catheters and that there was no specific protocol for medical staff to follow regarding the procedure of intercostal catheter insertion stating that it was a learnt skill and that there was no specific training program or formalised credentialing system in place. Furthermore, a medical officer was considered "experienced in this procedure" and was therefore able to undertake the procedure independently if the medical officer was:

- A Registrar in the Advanced Training Program for Surgery;
- A Registrar in the Advanced Training Program for Cardiac and Thoracic Surgery;
- A Medical Officer with postgraduate qualifications in Cardiothoracic Surgery;
- A Medical Officer who has undertaken courses where insertion or intercostal chest tubes has been taught; or
- A Medical Officer who has performed 10 or more intercostal catheter insertions under supervision.

Coroner's Recommendations

1. Establishment of a training program; and
2. Establishment of a database to record complication rates.

Developing an 'Investigation Standard' for deaths related to miscommunication of Radiology Findings:

The miscommunication of test results has been noted to be an issue of concern for patient safety by the Joint Commission on Accreditation of Health-care Organisations in the United States[1] as well as the Victorian Quality Council[2]. Its exact incidence is unknown in the Australian hospital setting.

Several cases relating to the miscommunication of radiological findings were noted at the Victorian State Coroner's office within a short period of time. Each case resulted in the patient's death and may have been prevented if various system failures were averted. The process of radiological requesting, reporting, documentation and communication with other clinical areas involved in the patient's care were considered the major discussion points during their review.

This cluster of similar cases prompted the Clinical Liaison Service (CLS) to develop a standard process for investigating these types of events based on the previously developed investigation standard for investigating falls in hospitals that result in a patient's death.[3]

The concept of a Coroner's 'Investigation Standard' can be likened to clinical practice guidelines within medical settings. Difficulties often arise when medical cases are investigated in the coronial setting due to the degree of specialist knowledge required for both legal and medical practice. The variations in investigative approach and practice have often resulted in inconsistent findings and recommendations in the past. Experience in hospitals has shown that Practice Guidelines, when used as a quality-of-care tool, can help to influence an individual case's completeness, consistency (decreasing variation in practice) and Simplicity.[4] Hence, the State Coroner decided to apply this practice to the coronial setting.

The CLS facilitated a working party to discuss deaths relating to the 'Miscommunication of Radiological Findings.' It was convened to share and synthesise information relating to the current research initiatives and clinical practices that are used for the prevention and management of miscommunicating radiology findings in hospital. The working party then designed a standardised approach for the investigation of related deaths that have been reported to the coroner from hospitals.

The working party comprised coroners, health policy makers, police, researchers, health service providers and consumer representatives from RANZCR, ACEM, RACS, RACP and the State Coroner's Office.

After discussion, this group decided that the investigation should cover the following key areas:

1. **Patient's clinical course**
2. **The radiological examination(s) and surrounding events**
3. **The organisation's system for monitoring the use of the radiology service**
4. **Relevant equipment or work practice**

Questions can be added or modified by Coroner's investigators to suit the specific events of a case. However, a consistent, minimum standard of investigation will allow the Coroner's Office to reach meaningful conclusions and to compare events over time and between organisations.

A copy of the 'Radiology Investigation Standard' is included in this edition of the Coronial Communiqué. An evaluation will occur at a later time to determine the effectiveness of the standard.

The Radiology Investigation Standard was developed to create a consistent and proactive system for managing the investigation of miscommunicated radiology results. It is hoped that this approach will encourage clinicians to see the coronial process as a system aimed at enhancing healthcare.

1. 2006 Laboratory Services National Patient Safety Goals, Joint Commission on Health Care Accreditation.
2. The Victorian Quality Council. The impact of communication of test results on appropriate patient care. Case examples and literature overview. November, 2004. Available at http://www.health.vic.gov.au/qualitycouncil/plans/documents/approp_care.pdf
3. Bohensky M, Emmett SL, Ibrahim JE, Ranson DL. Experience with Practice Guidelines For Medico-Legal Death Investigations: The Case Of Falls-Related Deaths In Hospital. *Med Law*. Volume 24, No. 4. December 2005
4. Merritt TA, Palmer D, Bergman DA, Shiono PH. Clinical practice guidelines in pediatric and newborn medicine: implications for their use in practice. *Pediatrics*. 1997 Jan;99(1)

CT Scans for Head Injuries

Case Number: 3579/03

Author: Ms Carmel Young RN, Clinical Liaison Service

Clinical Summary

Mr P, aged 64 years, had a past medical history that included hypertension and stroke twenty years previously following which he began to drink alcohol heavily. He was also on aspirin. He fell at his house on the back steps, striking the back of his head and having a brief loss of consciousness. An ambulance took him to hospital with a Glasgow Coma Score (GCS) of 10/15. On admission to the emergency department (ED) at 19:10 hours a haematoma was noticed over his occiput and his blood alcohol level was 0.28g/100mL. It was thought that his low GCS was due to his alcohol intoxication and it was decided to perform frequent neurological observations. At 23:30 hours his GCS was reported to be 9/15 and he became restless and uncooperative. At 05:30 hours a CT scan of his brain was ordered which was done at 08:40 hours which revealed an acute subdural haematoma with multiple contusions. He was sedated and intubated and transferred to a neurosurgical facility. His prognosis was deemed as poor and he died soon after treatment was withdrawn.

Coronial Investigation

The family objected to an autopsy. Following discussions between the forensic pathologist and the coroner the objection was granted. The cause of death was head injury - acute subdural haematoma secondary to a fall whilst intoxicated.

Hospital Response

Following this death the hospital has reviewed its protocols. Now the new minor head injury protocol requires a CT brain scan when the GCS is less than 15, the patient is intoxicated or confused with a history of head trauma. The threshold should be low when the patient is over 65 years old, there is a significant mechanism of injury or the patient has impaired ability to communicate.

Recommendations

Recommendations were correlated from a similar case, 3326/94 where the following recommendations were made:

1. Where patients are admitted to hospital for observation following suspected head injuries combined with alcohol it is essential that consideration be given to early CT scan.
2. That consideration be given to investigating problems associated with undue reliance on the four hour period of observation as it is associated with the GCS, head injury and alcohol. Where alcohol/drugs and the risk of head injury combine limiting observation periods to 4 hours without the benefit of appropriate tests may be fraught with problems
3. The possibility of non-neurosurgical trained medical personnel relying on the GCS as a principal diagnostic tool may require addressing

Author's Comments

Many studies have been done about when to perform a CT in a patient with a head injury. The New Orleans Criteria apply to patients who have a GCS of 15 and have any of the following findings:

- Headache
- Vomiting
- Older than 60 years
- Drug or alcohol intoxication
- Persistent anterograde amnesia
- Visible trauma above the clavicle
- Seizure

The Canadian CT head rules are similar to the New Orleans Criteria but also apply to patients with a GCS between 13 and 15 at 2 hours after the injury.

The utilisation of either of these criteria would have resulted in an earlier CT brain for this patient.

Re-designing the Coroner's Medical Deposition

When a patient dies in hospital and the death is considered to be a 'reportable' death the medical officer should contact the State Coroner's Office. If the Office deems the death should be reported a 'Medical Deposition' must be completed by a doctor.

The medical deposition form is a paper based document that is either faxed to the Coronial Services Centre or accompanies the body of the deceased.

This form is a valuable way to:

- Improve communication with the forensic pathologist about any clinical concerns or questions
- Assist the Coroner to direct the investigation as required

Some of the information included on the Medical Deposition is not routinely collected elsewhere. As part of our efforts to improve the level and detail of clinical information, CLS is undertaking a review of the Medical Deposition form.

With the support of the State Coroner, the Clinical Liaison Service will be coordinating the review and revision of the Coroner's Medical Deposition form.

The first step is an audit of the information being received at the State Coroner's Office focusing on the completeness and legibility of information. Once this is done we plan to have a forum of about 40 key stakeholders to discuss what information should be included on the Medical Deposition, how it should be entered, including the possibility of web based data entry, and how the information can be best used for informing both the coronial system and the healthcare system.

The potential advantages in having complete data sets are great for both the coronial and healthcare systems and include:

- Administrative
- Reasons for reporting
- Clinical doctor's details
- Reporting doctor's details

We look forward to keeping you informed of the progress of this project over the coming months. If you would like to make a comment please forward them to cls@vifm.org