(265A)

BUNDABERG BASE HOSPITAL
Department of Medical Imaging - Patient Report

Patient Name: BRAMICH DESMOND
UR Number: 086644
Series Number: 5 Sex: M
Attend.Date: 25 JUL 04
Current Date: 30 AUG 2004

Examinations: CT - CHEST,CT - ABDOMEN
Referred: DR N KEIL
Location: ED

CLINICAL HISTORY;
CRUSH INJURY.

CT OF THE CHEST & ABDOMEN.

Multiple rib fractures on the right sided. Right sided pneumothorax with intercostal catheter in position. Extensive surgical emphysema over the right hemithorax and extending into the abdominal wall on the right side predominantly posteriorly.
Within each lung there are areas of consolidation and increased opacity, this may be lung contusion secondary to the patients trauma. There is also evidence of some gas present within the mediastinum about the trachea. There is a small pneumothorax present on the left side. Plain films are not present, however there are also a number of rib fractures on the left side.
In the scans through the abdomen, the liver is of uniform CT density and I can see no evidence of trauma. No lesion seen in the spleen. The pancreas

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and kidneys appear normal. No free intra-abdominal fluid is detected.
In the films on bony mode, I can detect no lesion of the spinal column.

COMMENT: Fractured ribs both sides, bilateral pneumothoraces with a intercostal catheter present on the right side. Extensive surgical emphysema over the right hemithorax. Also mediastinal air with gas about the trachea and extending up into the neck. Changes most likely pulmonary contusions.

SG:3578 DR DAVID CAMPBELL

BUNDABERG BASE HOSPITAL
Department of Medical Imaging - Patient Report

Patient Name: BRAMICH DESMOND
UR Number: 086644
Series Number: 10 Sex: M
Attend.Date: 27 JUL 04
Current Date: 30 AUG 2004

Examinations: CT - CHEST,CT - ABDOMEN
Referred: DR J GAFFIELD
Location: ICU

CLINICAL HISTORY;
VENTILATED IN ICU # RIBS.

CT OF THE CHEST, ABDOMEN.

In the scans through the chest there is marked change since the previous examination dated 25/7/04. The right hemithorax is now filled with blood, there is mass effect with displacement of the mediastinum to the left. The intercostal catheter is in position. Surgical emphysema over the right hemithorax and air within the mediastinum. Some collapse at the left lung base and effusion at the left lung base.
In the scans through the upper abdomen, the stomach is full of fluid. NO lesion seen in the spleen or liver. NO pancreatic lesion demonstrated, both kidneys appear normal. NO free fluid seen in the peritoneal cavity.

COMMENT; Marked change since the previous

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Location: ICU

examination. The right hemithorax is now full of blood with mass effect with displacement of the mediastinum to the left.

SG:3581 DR DAVID CAMPBELL

Case Report – Desmond Bramich

Desmond Bramich

Deceased 28/7/04 @ 0012
Admitted 25/7/04

This gentleman was admitted through the emergency department at 1946 following a trauma call. He had sustained a crush injury to the right side of his chest when he had been trapped under his caravan for ten minutes approximately three hours earlier. He was transferred to the hospital from the accident site by helicopter.

On arrival his observations were noted to be

Respirations	30
Saturations	96%
Pulse	107
Blood Pressure	147/93
Haemoglobin	153

His past medical history included gastritis, haemochromatosis, Hepatitis A and Left Bundle Branch Block (LBBB).

Bilateral large bore cannulae were inserted as was an intercostal drain (under ketamine and morphine.

The trauma screen radiography showed an enlarged heart, a right sided chest tube, subcutaneous emphysema, ?contusion ?inflammation to the right lung and probable fractures to the 6th and 7th ribs on the right.

The abdomino-thoracic CT showed bilateral fractured ribs, bilateral pneumothoraces with a right sided intercostal catheter. There was extensive surgical emphysema over the right hemithorax with mediastinal air extending into the neck. Pulmonary contusions were also noted. There was no intra-abdominal pathology demonstrated.

The possibility of cardiac contusion was considered and serum troponin measured. The level was 0.04 (just significant). Any other diagnostic criteria were complicated by the pre-existing LBBB.

He was admitted to the Intensive Care Unit for overnight observation.

On the following day, the 26th he was sufficiently awake and comfortable to be discharged to the surgical ward on a patient controlled analgesia regime. His chest radiograph showed collapse and consolidation on the right with multiple rib fractures.

He continued well until about 1300 on the 27th when he collapsed with a recorded blood pressure of 50 systolic. The floor anaesthetist was contacted and went to the surgical ward to assess the patient who was in acute respiratory distress and haemodynamically unstable. A haemoglobin taken during this phase showed a level of 77. The patient's conscious level was fluctuating and he was complaining of severe chest pain. The Right sided intercostal drain was noted to be non-functional at this time. The patient was, therefore, transferred to the Intensive Care unit

Upon arrival in the Intensive Care Unit a second intercostal drain was inserted at the request of the anaesthetist whilst the patient was intubated for respiratory support. The Director of Anaesthetics was called to review and advise on further management of the patient. His decision was to arrange for the patient to be transferred to a tertiary centre in Brisbane, where the capacity to provide thoracic surgery, long term ventilatory support and a blood bank with the capacity to provide products for massive transfusion were co-located. The flight coordinator was contacted at 1620 to arrange a retrieval flight.

In the interim a further abdomino-thoracic CT was performed to exclude an intra-abdominal catastrophe. The anaesthetic support for this procedure was provided by the Director of Anaesthetics. The floor(duty) anaesthetist having been diverted to deal with a less urgent case (a patient who had suffered a perforation during a colonoscopy performed by the Director of Surgery). The CT demonstrated marked change with the right hemithorax being full of blood with a mass displacement of the mediastinum to the left. There was no evidence of pericardial fluid.

Fluid resuscitation continued, the patient receiving in all:-

11 units of blood,
4 units of fresh frozen plasma,
3,000 ml crystalloid
and 2,000 ml colloid.

Despite this the patient remained hypotensive and was commenced on vasopressor agents.

The Director of Surgery reviewed the patient and decided to do an ultrasound guided pericardiocentesis despite the evidence of the CT. This produced 2-3 ml blood. He then had a discussion with the family and informed them that there were no plans to transfer the patient to Brisbane stating that the patient had a pulmonary contusion leading to massive haemothorax and was haemodynamically unstable at that time. The retrieval team had been despatched at 1930. The team arrived at 2215 and it was decided that the patient should be transferred after an aggressive bout of resuscitation. Unfortunately the patient arrested and despite all attempts at resuscitation was declared dead at 0010.

Post mortem confirmed that there was ~3,000ml of blood in the right hemithorax and the right lung was collapsed. There were fractures of the 6th and 7th ribs on the right as well as the sternum. The right ventricle had been abraded and the visceral pericardium perforated, blood within the pericardial cavity is attributable to this. Cause of death is attributed to internal haemorrhage.

Areas of concern

1. The delay in the arrival of the retrieval team. Request logged at 1620, despatched at 1930 and arrived at 2215. A six hour delay is excessive.
2. Lack of coordination of care – two surgical teams involved. Mixed messages being conveyed to the family over the advisability of transferring the patient.
3. Poor triaging with a patient with a perforation of a prepped large bowel being prioritised ahead of a patient with catastrophic intra-thoracic bleeding.
4. Pericardial paracentesis being performed without any indication (see CT and PM report).
5. Lack of radiology support – CTs not reported until 30/8/04

DESMOND BRAMICH

DATE OF DEATH 28 07 2004

DATE OF POST MORTEM 29 07 2004

EXTERNAL EXAMINATION

A sturdy middle aged caucasian man in a body bag in which there is some blood.The clothing is hospital grey and white under pants.The build is muscular.The abdomen is distended.HT 180 cm.The hair is short and grey but the pubic hair is slightly auburn.The eyes are grey.The body is circumcized

There is residual Rigor Mortis.The Lividity is faint and dorsal

There is a Rose motif tattoo upon the left breast

There is a surgical scar on the right lower abdomen

There is evidence of medical attention—I.V needles two left hand, one right wrist, one right Brachial Fossa.There is a CVM line in the right neck.There are two chest tubes sutured in place in the right lateral chest wall and one in the left lateral chest wall.There is an in-dwelling Bladder catheter.There are ECG pads ^

The skin and mucous membranes are pale.There is fresh bruising and swelling of the tissues of the Right Chest anteriorly laterally and posteriorly.There is fresh bruising of the Left upper chest anteriorly and laterally and the Left shoulder region.There is blood tinged fluid in the mouth and nostrils and the Tongue is clenched between the front teeth.Blood stained fluid seeps from the right chest tubes upon moving the body . ^ Small Epigastric Punctures

INTERNAL EXAMINATION

The tissues are pale and oedematous.There is an haemorrhagic mass in the right chest cavity

HEAD

The Scalp is intact and pale.The Skull is intact.The Brain is pale 1400 G otherwise normal upon routine sectioning.The teeth are natural

The Tongue and gums are pale

NECK

The Cervical Vertebrae and Spinal Cord are intact.There are some small haemorrhages around the Oesophagus.The Thyroid Gland is prominent but within normal size limits.It is rather pale.The Hyoid and Larynx are intact.The Pharynx Larynx and Trachea hold blood tinged fluid

THORAX

The Right Pleural Sac contains 3000 G of dark clotted blood and a small amount of liquid blood.The Right Lung is collapsed 400g and there is no obvious rupture or tear, laceration, puncture in the Visceral Pleural Membrane covering the Lung.The Right Chest Wall is bruised boggy and haemorrhagic.There is tearing of the Parietal Pleura particularly in the mid zone postero-lateral region.There is fracturing with displacement of the Right 6 and 7 Ribs in the postero-lateral region.The Left Pleurwl Sac holds a moderate amount of blood tinged thin liquid.The Left Lung is expanded 800 G and shows haemorrhag oedema upon section

There is generalized bruising of the chest wall The Body of the Sternum is fractured through and through in its upper to mid third

The Pericardial Sac holds some heavily blood tinged thin fluid approx: 200 mL.The Heart 420 G has mild Left Ventricular Hypertrophy.The Myocardium is pale.There might be one tiny focus of ischaemic fibrosis The Valves are normal.The R Coronary Artery has mild atheroma the L system mild to moderate atheroma.The luminae are good and there are no acute occlusions.There is no pulmonary embolus.Upon the posterior aspect of the Right Ventricle there is a small tear in the Visceral Pericardium.This and the blood in the Pericardial Sac are at present attributed to Pericardiocentesis

There is some bruising haemorrhage upon the posterior aspect of the Oesophagus

The Diaphragm is intact

The Major Great Blood Vessels are intact,The Aorta has minimal atheroma

ABDOMEN and PELVIS

Stomach filled with undigested food inclusive of green peas.The ~~Ia~~ Intestines are pale and gassy and have Serosal oedema.The Appendix has been removed.The Liver 2000 G is intact and pale,The lobular patter is a little accentuated.The Gall Bladder is normal.The Pancreas is pale

Spleen intact and normal I70 G.The Mesentery is fatty.There are no abnormal Lymph Glands

The Adrenal Glands are normal

The Kidneys are very pale.The subcapsular surface has patchy very fine granularity but is mostly smooth.The Medullary Pyramids are pale Each Kidney I80 G.The Ureters are normal also the Bladder.The Prostate Gland has a mild to moderate enlargment of benign consistency

The Testes are normal

The Aorta is intact and has minimal atheroma

The Vertebral Column and Pelvic Girdle are intact

CAUSE OF DEATH

Ia Internal Haemorrhage

Ib Chest Injuries — Crush

Ic Crushed by Caravan

2 Mild Hypertension

INVESTIGATIONS

Histology

Toxicology Blood Urine Vitreous Humour E M I T Alcohol

COMMENT

As per FORM 8

ERRATA

ATTENDING CONSTABLE C FINDLAY BUNDABERG

* DOCTORS BOYD and GUPTA SURGICAL REGISTRARS B BASE HOSPITAL

* PHONED CORONERS OFFICE TO REQUEST PERMISSION.

R Delmacy Ashley 01/08/2004