MAGISTRATES COURT of TASMANIA

CORONIAL DIVISION

# Record of Investigation into Death (without inquest)

*Coroners Act 1995*
*Coroners Rules 2006*
*Rule 11*

I, Rod Chandler, Coroner, having investigated the death of Ann Margaret SANSOM

## Find:

a) The identity of the deceased is Ann Margaret Sansom.

b) Mrs Sansom was born in Launceston on 18 June 1951 and was aged 62 years.

c) Mrs Sansom died at the Royal Hobart Hospital ('RHH') in Hobart on 1 April 2014.

d) The cause of Mrs Sansom's death was an acute subarachnoid haemorrhage following perforation of the anterior communicating artery complicating a procedure to stabilise a saccular (berry) aneurysm. Significant contributing factors were Type 2 diabetes and cirrhosis.

## Circumstances surrounding the death:

Mrs Sansom was married and resided with her husband at Devon Hills. She was a nurse by occupation. Her medical history included Type 2 diabetes, gastro-oesophageal reflux disease, high blood cholesterol, hypertension, a previous hysterectomy, laparoscopic cholecystectomy and cirrhosis.

On 16 January 2014 Mrs Sansom attended her ophthalmologist in Launceston with double vision and a right drooping eyelid. Investigation revealed a partial third cranial nerve palsy. It was assumed to be related to an ischaemic event possibly connected to her diabetes. A CT scan was ordered. It showed a 3mm anterior communicating artery aneurysm which the ophthalmologist considered required further investigation. Mrs Sansom was referred to the RHH.

On 30 January 2014 Mrs Sansom attended at the RHH and underwent a digital subtraction angiography. The report of the investigation stated; "A *solitary anterior communicating artery aneurysm has been demonstrated. There were no complications …*"

Mrs Sansom was admitted back to the RHH on 30 March 2014. It is recorded in her medical notes that her situation was discussed at a multi-disciplinary committee and it was agreed, after consultation with Mrs Sansom and her husband, that she undergo a coiling a procedure to treat her aneurysm. In the morning of 31 March Mrs Sansom was transferred to the

Angiography Suite for this procedure to be undertaken. It was to be performed by Interventional Radiologist, Dr Jens Froelich, with the assistance of two anaesthetists.

Mrs Sansom was prepared for the endovascular procedure by the insertion of the bilateral femoral arterial catheters and anti-coagulation with intra-venous heparin. Angiography confirmed the presence of a secular anterior communicating artery aneurysm. There were no other vascular abnormalities noted.

A micro-catheter was inserted into the aneurysm. A stent was positioned in the second segment of the right anterior cerebral artery for deployment across the neck of the aneurysm. At this point a diffuse moderate leak of contrast occurred from the terminal section of the right internal carotid artery. The vascular stent was placed over the neck of the aneurysm and the micro-catheter remained in position with the aneurysm. Thus the micro-catheter could be used to fill the aneurysm with coils, which could not escape the aneurysmal sac. Further treatment of the aneurysm ceased at this point. Mrs Sansom developed severe high blood pressure. Treatment was initiated and the heparin anti-coagulation reversed. Further angiography revealed seriously reduced right internal carotid artery blood flow. Further imaging showed brain herniation and compression. Signs of significant brain injury were noted. Further intervention was considered futile.

Mrs Sansom was transferred to the Intensive Care Unit. Brain death testing confirmed that she had died.

Analysis of the angiogram films does not show a cause of the haemorrhage.

## Post mortem examination:

This was carried out by Forensic Pathologist, Dr Donald Ritchey. His report includes these comments:

*"The autopsy revealed a…… diffuse symmetric subarachnoid haemorrhage overlying the cerebral hemispheres. A wire stent was present within the right anterior cerebral artery and a 1mm perforation was located within the anterior communicating artery adjacent to the aneurysm. The perforation was the apparent source of subarachnoid haemorrhage. In addition, there was florid cirrhosis (scarring of the liver). Individuals with cirrhosis are at increased risk of bleeding due to liver dysfunction."*

In Dr Ritchey's opinion the cause of Mrs Sansom's death was acute subarachnoid haemorrhage following perforation of the anterior communicating artery complicating a procedure to stabilise a saccular (berry) aneurysm. Significant contributing factors were Type 2 diabetes and cirrhosis.

## Investigation:

The investigation included:

1. The provision of an affidavit made by Senior Constable Adele Reynolds following an interview of Mr Sansom and Mrs Sansom's adult daughters Sara and Rohani. In that

document it is confirmed that Mrs Sansom had a family history involving aneurysms. It also records that Mrs Sansom was keen to undergo the coiling procedure.
2. A review of Mrs Sansom's records at the RHH carried out by Research Nurse, Ms Libby Newman. The records incorporated a full description of the coiling procedure and the complications that evolved.
3. The provision of a report made by Dr A J Bell as medical adviser to the coroner.

In his report Dr Bell includes these opinions:

- Most aneurysms are asymptomatic unless the aneurysm ruptures. Studies have shown that the risk of rupture is small if the aneurysm is less than 7mm in size. In Mrs Sansom's case the aneurysm was 3mm, thus monitoring, rather than surgical intervention, was a reasonable option.
- However, Mrs Sansom had a family history of subarachnoid haemorrhage, presumably related to aneurysm and in this circumstance there was a greater risk of her aneurysm rupturing and at an earlier age. This fact coupled with Mrs Sansom's apparent strong desire to have the aneurysm treated made her decision to undergo the procedure a reasonable and understandable one.
- That a review of Mrs Sansom's treatment, including a consideration of the coiling procedure's film, did not reveal any sub-standard practice.

## Comments and recommendations:

I accept Dr Ritchey's opinion upon the cause of death.

I accept too the opinion of Dr Bell that the coiling procedure undertaken by Dr Froelich was carried out in accord with accepted and proper practice. Despite this an unexpected complication arose which led to Mrs Sansom's death. In the result this tragic outcome serves to demonstrate the inherent risk of neuroradiology interventions.

I have decided not to hold a public inquest into this death because my investigation has sufficiently disclosed the identity of the deceased, the date, place, cause of death, relevant circumstances concerning how her death occurred and the particulars needed to register her death under the *Births, Deaths and Marriages Registration Act* 1999. I do not consider that the holding of a public inquest would elicit any significant information further to that disclosed by the investigation conducted by me. The circumstances of the death do not require me to make any further comment or to make any recommendations.

I convey my sincere condolences to Mrs Sansom's family.

**Dated: the 16th of June 2015** at Hobart in the state of Tasmania.

**Rod Chandler**
**CORONER**