# WITNESS STATEMENT

(CJ Act 1967, s.9; MC Act 1980, ss.5A(3) (a) and 5B; Criminal Procedure Rules 2005, Rule 27.1)

Statement of: SWIFT BENJAMIN

Age if under 18: OVER 18 (if over 18 insert 'over 18') Occupation: CONSULTANT FORENSIC

This statement (consisting of 6 page(s) each signed by me) is true to the best of my knowledge and belief and I make it knowing that, if it is tendered in evidence, I shall be liable to prosecution if I have wilfully stated anything in it, which I know to be false or do not believe to be true.

Signed: DR B SWIFT Date: 02/10/2007

Tick if witness evidence is visually recorded ☐ *(supply witness details on rear)*

Range and Extent of Expertise

I qualified from the University of Leicester in 1998 (MB ChB). In 2005 I became a member of the Royal College of Pathologists by examination in Forensic Pathology (MRCPath(Forensic)). In 2004 I was awarded a Doctorate in Medicine (MD) by thesis in Forensic Pathology by the University of Leicester. I am a Member of the Faculty of Forensic and Legal Medicine of the Royal College of Physicians of London (2007).

Following post-graduate training in surgical pathology within the University Hospitals of Leicester NHS Trust, I commenced training in Forensic Pathology as a Specialist Registrar. I was later appointed as a Locum Consultant, also within Leicester. Following acceptance as a Home Office registered pathologist in early 2006, I joined the Forensic Pathology Services, Abingdon; I have since been made a Partner in this Group Practice, the largest in England and Wales. I am therefore engaged full time in the practice of forensic pathology.

I have published on pathology and forensic pathology, including papers in peer reviewed journals and chapters in textbooks and encyclopaedias. I lecture regularly to various agencies and organisations, and I maintain membership of learned societies.

Along with colleagues I provide a suspicious death service primarily for East Anglia, though I also provide support to the South East of England (including London and surrounding counties). I also provide a service to the Royal Falkland Islands when required.

I am widely consulted by both prosecution and defence throughout the UK and, on occasions internationally on matters relating to Forensic Pathology. I regularly give evidence in Crown court trials at the request of both prosecution and defence.

Declaration

I am an expert in Forensic Pathology and I have been requested to provide a statement. I confirm that I have read guidance contained in a booklet known as Disclosure: Expert's evidence and unused material which details my role and documents my responsibilities, in relation to revelation as an expert witness. I have followed the guidance and recognise the continuing nature of my responsibilities of revelation. In accordance with my duties of revelation, as documented in the guidance booklet, I:

a. confirm that I have complied with my duties to record, retain and reveal material in accordance with the Criminal Procedure and Investigations Act 1996, as amended;

b. have compiled an index of all material. I will ensure that the index is updated in the event I am provided with or generate additional material;

c. have complied with my duty to the court to provide independent assistance byway of objective unbiased opinion;

d. that in the event my opinion changes on any material issue, I will inform the investigating officer, as soon as reasonably practicable and give reasons.

THIS IS A CONFIDENTIAL REPORT AND SHOULD NOT BE DISCLOSED
TO A THIRD PARTY WITHOUT PERMISSION

POST MORTEM REPORT

Operation WHIMBREL

Name of Deceased: Alexander LITVINENKO (Edwin CARTER)

Address: 10 Osier Crescent, Muswell Hill, London.

Date of Birth: 04/12/1962 (43 years)

Date of Death: 23/11/2006

Date and Time of Examination: 01/12/06, 14.10 - 17.15 hours, Royal London Hospital

Under the instruction of: Dr REID , HM Coroner

CAUSE OF DEATH

1a Acute Radiation Syndrome

HISTORY[1]

At the request of Her Majesty's Coroner, I attended a briefing held within a ground floor conference room of the pathology wing of the Royal London Hospital, London, commencing at 1025hrs. The briefing was chaired by Professor Jo MARTIN , Clinical Director and was attended by representatives from the Health Protection Agency, the Metropolitan Police, Her Majesty's Coroner's Office and the Institute of Naval Medicine. Detailed plans were made as to the conduct of the post mortem examination and the health and safety procedures required. Also in attendance was Dr Nat CARY , Home Office Pathologist who was to lead the examination, and Professor S LUCAS , who had been instructed to represent relatives of the deceased. The following information was provided at this time:

The deceased, a Russian national, was now living in London. Around the afternoon of the 1st November 2006 he became unwell, with nausea and vomiting and bloody diarrhoea. On the 3rd November 2006 he attended the Barnet hospital, where he was admitted with possible infective diarrhoea; he was barrier nursed and treated with antibiotics. Stool samples were submitted for microbiology.

It was soon observed that he was becoming neutropaenic with absolute leucopaenia. Between the 6th November and the 11th November 2006 his white blood cell count dropped from 17 to 0.3. He developed alopecia and severe pharyngeal and oesophageal inflammation. Hepatitis and HIV screens were negative. On the 17th November 2006 he was transferred with acytopaenia. A bone marrow aspirate performed showed no appreciable viable bone marrow cells.

There was no evidence of external radiation exposure and no history of chemotherapy use. On the 22nd November 2006 samples submitted to Aldermaston showed weak gamma radiation positivity, with alpha spectrometry confirming a high pure $^{210}$Po isotope concentration (there was no $^{210}$Pb equilibrium). He later died.

Radiographic images performed in life were examined and showed a possible callus to the right forearm and Prussian blue dye within the gut. No metallic objects or projectiles were identified.

EXTERNAL APPEARANCE

PERSONS PRESENT

The following is a list of only those present within the post mortem room at the time of the examination:

Dr Nathaniel CARY (who led the post mortem examination)

DC James WOODMANSEY (Exhibits Officer)

Dr David HOLT (advisor from the Institute of Naval Medicine)

Mr MCKARY (Photographer)

Mr NEWCOMBE (Radiation Protection Officer)

The isolation room of the mortuary had been prepared prior to the start of the examination to minimise the risk of contamination. Persons within the isolation room were dressed in PPE to prevent exposure to the isotope present, as provided by the London Fire Service; persons were in attendance outside the room in PPE to assist in the event of a possible incident.

The examination was documented using digital photography (taken by Mr MCKARY) and fixed video recording.

The body was removed from the body bag within which it was transported and the inner body bag was opened to reveal the body of a white adult male.

Medical paraphernalia and equipment were present within the bag, including a hospital pillow and bed sheet, multiple cannulae attached to intravenous giving sets, ECG electrodes, a suction bottle and a fabric hospital gown.

The body showed changes of jaundice and peripheral oedema, in keeping with the effects of multi-organ failure. There was complete alopecia to the body. The conjunctivae were oedematous and there were no petechiae present. The mouth possessed natural dentition and showed no evidence of traumatic injuries. The fingernails were short and clean. The genitalia were oedematous but normal.

A scar was noted to the top of the head. Close examination for additional scars was not performed owing to the limitations imposed upon the examination and the inability to wash down the body.

There were no recent marks of injury to body.

Numerous marks of medical intervention, including needle marks, were identified

Rigor mortis was absent and hypostasis was present to the posterior aspect of the body and the top of his head, with some skin slippage.

INTERNAL EXAMINATION

CARDIOVASCULAR SYSTEM

The pericardium showed a blood-stained fibrinous pericarditis. The heart appeared morphologically normal. The coronary arteries showed minimal atherosclerotic stenosis in both

coronary arteries. The atria, auricular appendages and ventricles were dilated, but otherwise normal. The myocardium was pale brown. The endocardium, papillary muscles chorda tendonae and cardiac valves were normal. The aorta was opened and showed mild atherosclerosis, worse within its distal portion. The venous system was normal.

RESPIRATORY SYSTEM

Formal layered neck dissection revealed the strap muscles of the neck had bruising. The hyoid bone, laryngeal cartilages and cervical spine were intact. The larynx, trachea and bronchi were opened and showed congested changes with oedematous changes to the mucosa. The lungs were congested and oedematous, with firm cut sections. The chest cavities possessed straw-coloured effusions (at least 500mls bilaterally). The pulmonary arteries appeared normal; there were no thromboemboli. The ribs showed no evidence of recent fracturing:

GASTROINTESTINAL SYSTEM

The mouth, tongue and jaws were normal.

The oropharynx and oesophagus showed sloughing of the mucosa. The stomach contained dark fluid only. The small intestine, large intestine, rectum and anus were normal; I personally opened the intestines along their lengths to extract the contents for analysis. No pellets or foreign bodies were present within the alimentary canal.

The peritoneal cavity contained between 1 and 2 litres of dark yellow ascitic fluid. The biliary tree was patent and the gallbladder was distended with bile. The liver showed pallor on sectioning. The pancreas was autolytic.

GENITO-URINARY SYSTEM

The renal capsules stripped easily to reveal smooth subcapsular surfaces. Corticomedullary demarcation was evident, with flecks of haemorrhage within the cortex, and the pelvicalyceal systems were normal. The bladder was showed submucosal haemorrhage and was catheterised. The prostate and genitalia were normal; there was no bruising.

LYMPHORETICULAR SYSTEM

The spleen was firm. The thoracic and abdominal lymph nodes were normal.

ENDOCRINE SYSTEM

The pituitary, thyroid and adrenal glands appeared normal.

CENTRAL NERVOUS SYSTEM

The scalp was oedematous but normal, with no bruising present. The skull was opened manually using a handsaw. There was no fracture present. The dura were normal. The brain showed a normal morphological appearance and, on sectioning. Showed no macroscopic abnormality within the cerebral hemispheres, cerebellum, midbrain, pons or medulla. The dural venous sinuses and ventricular systems were patent and normal. The eyes, middle ears and spinal cord were not examined.

MUSCULO-SKELETAL SYSTEM

No injuries were identified upon internal examination.

The skin from the elbows to the wrists were dissected at the request of those in attendance.

A section of left femoral shaft was removed for bone marrow and cortical bone sampling.

ORGAN WEIGHTS

| | | | |
|---|---|---|---|
| Brain | 1425g | Liver | 1075g |
| Heart | 403g | Kidneys | 271g |
| Left lung | 1013g | Spleen | 155g |
| Right lung | 973g | Thyroid gland | 15g. |

SPECIMENS RETAINED

No additional specimens were retained following completion of my examination; those taken under the instructions of Dr CARY are detailed within his report.

Due to the inherent health and safety risks involved, the material retained for future toxicological examination has not been processed or examined.

I understand from Dr CARY's report that samples were retained for further analyses. I have not been provided with copies of the results of these tests. However, I do not believe that these results will alter the cause of death, though may be relevant to the circumstances surrounding his death.

COMMENTS

1. The deceased, a white adult male, showed no evidence of natural disease that could have caused or contributed to his death.

2. The deceased died following acute onset total bone marrow failure, with subsequent multi-organ failure and alopecia. Samples analysed towards the end of his life showed a high pure isotope concentration of Polonium-210. The clinical and pathological diagnosis was therefore acute radiation syndrome. Post mortem examination showed changes to the internal

organs in keeping with multi-organ failure. I understand that samples submitted following the completion of the post mortem examination have confirmed concentrations of $^{210}$Po well in excess of that considered potentially fatal.

3. It is not possible to state with certainty the route by which the isotope had entered the deceased's body. However, given the clinically recognised severe pharyngeal and oesophageal inflammation, it has most likely entered the body through oral means.

4. Acute radiation syndrome may result in death through a combination of bone marrow suppression (making the individual susceptible to infections by any form of microbial), systemic metabolic disturbances (notably widespread cell death with subsequent release of chemicals into the bloodstream) or direct cardiac damage.

5. There was no evidence of assault or restraint. No puncture wounds or projectiles were identified to the body. No foreign bodies were present within the alimentary canal at post mortem examination.

6. On the basis of the information that I have been provided with to date, I conclude that the cause of death should be considered as:

CAUSE OF DEATH[2]

1a Acute Radiation Syndrome

Dr. Benjamin Swift MB ChB MD MRCPath(Forensic) MFFLM

Home Office Registered Forensic Pathologist

Consultant Forensic Pathologist

Consultant to Forensic Pathology Services.

[1] The information contained in the section entitled HISTORY is my interpretation of the information that was provided by statements prior to this autopsy examination. This information may, or may not, prove factually correct and may have altered during the subsequent investigation following completion of my examination.

[2] The information given within this report represents my understanding of the views, opinions and circumstances of this case based on the information that I have received to date, either in writing (all forms) or by oral communication. I recognise that in part this may reproduce or rely upon witness statements, oral communications or hearsay evidence of second parties and that the information given to me by others may or may not be factually correct at the time of my consideration.

I reserve the right to reconsider any aspect of this report should a significant typographical or grammatical error, or factual inconsistency, be identified that could be misinterpreted by a reader. I also reserve the right to reconsider any aspect of this report, including the cause of death, should further factual in formation arise that contradicts the information provided at the time of the post-mortem examination, upon which I have based my interpretations.

Signed: DR B SWIFT Signature Witnessed by:
2006/07(1)