

**Case Based
Learning**



Year 3 Case-based Learning 2024-25

Case 3 Part 1

Facilitator Materials



Key Contributors:

Michael Trimble – Academic Lead for Year 3 CBL

Amy Taylor – ADEPT Fellow 2021-22

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STUDENT MATERIALS

Patient background

George Smyth is an 82-year-old dairy farmer living on his own. You first met him in Year 1 when he had an inferior STEMI which caused cardiac failure. Since then, he has continued to smoke and has been diagnosed with hypertension, type 2 diabetes mellitus and renal stones. However, he does not engage much with the GP practice or other healthcare services. He does not strictly adhere to his prescribed medication and does not attend for routine care such as flu vaccination. He is unmarried and lives alone since his sister died 6 years ago. Until recently he had declined a package of care. He has finally accepted it as he has been struggling at home, but there is a waiting list before it can start.

Mr Smyth rings his GP surgery with sudden onset back/abdominal pain. Dr Carson rings Mr Smyth back during morning triage. Dr Carson notes that Mr Smyth last attended the GP five years ago and has not requested his aspirin prescription for 9 months. Mr Smyth seems vague on the phone but is clearly not himself and is in pain. He says he has a very sore back and feels dizzy on standing. He is not able to give any further detail. Concerned about a severe acute cause, Dr Carson arranges an emergency ambulance to the nearest emergency department (ED).

Referral to ED (online)

Name: George Smyth
Age: 82 years
HCN: 3990050001
Address: 17 Oak Avenue, Antrim,
BT41 4LH

Date: 29/11/2022

Time: 1253

Registered GP: Dr R. Carson

GP address: Antrim Surgery, 2 Ross Road, Antrim, BT41 4BA

Many thanks for seeing Mr Smyth with sudden onset acute back and L flank pain and dizziness
??severe acute event. Thanks for further Ix and management.

Dr Carson

PMH

Hypertension

Ischaemic heart disease - Inferior
STEMI age 77 (PCI), angina

Heart failure

Type 2 Diabetes Mellitus

Renal stones

Last BP 170/90 on 21/1/22

Last contact 20/11/22 – DNA flu vaccine

Repeat medication

Metformin 1g BD x 84

Atorvastatin 80mg NOCTE x28

Amlodipine 5mg MANE x 28

Aspirin 75mg MANE x 28

Bisoprolol 5mg MANE x 28

Ramipril 10mg MANE x 28

GTN 400 micrograms/dose aerosol
sublingual spray T-TT PRN x 200

Social

Current smoker – 60 pack years

ATMIST pre-alert

**ANTRIM AREA HOSPITAL – NIAS ATMIST PRE-ALERT**

Date: 29/11/22	Time: 1339	Call Taker: J. Clarke
Vehicle Call Sign:	STANDBY	<u>INFORM</u> ADVICE

A	Age: 82 Male/Female: M Name: George Smyth DoB:
T	Time of Incident / Onset 1-2h
M	Mechanism of Injury / Medical Complaint Back/abdo pain
I	Injuries Found / Medical Findings No obvious injuries
S	Signs and Symptoms RR 18 SPO2 98 HR 97 BP 150/90 Temp 36.7 BM 5 GCS 15 ETCO2 FAST - +ve / -ve NEWS 1 PEARRL Yes/No
T	Treatment Given Paracetamol 1g x1 IV 13.25

ETA:
Consultant/Reg and NIC informed YES / NO

Text:

Antrim Area Hospital – NIAS ATMIS pre-alert

Date 29/11/22, time 1339, call taker J Clarke

INFORM

ATMIST

Age: 82y, Male, George SMYTH

Time of incident or onset of symptoms: 1-2h

Mechanism of injury or medical complaint: Back/abdo pain

Injuries suspected / Examination findings: No obvious injuries

Signs: GCS 15, BM 5, BP 150/90, Temp 36.7, RR 18, HR 97, Sats 98, NEWS 1,

Treatment given: Paracetamol 1g x1 IV 13.25

ED flimsy

HSC Northern Health and Social Care Trust		Emergency Department Clinical Record						
George Smyth DOB (Age): Age 82 Gender: M Home: 17 Oak Avenue Antrim BT41 4LH Home Tel: Mobile Tel: 07894204003 Registered GP: Dr R Carson Antrim Surgery Practice: 12 Antrim Road Antrim GP Tel: 02894853894 School: Triage Notes: MEDICAL HISTORY: HON, HKD, PM		H&C No: 3990050001 PAS No: Episode Date: 29.11.2022 Registration Time: 13.50 Source of Referral: Mode of Arrival: Ambulance Accompanied by: Self NOK: Laura Forbes (niece) NOK Tel: 07746699400 No. Prev Attendances: 3 Attendances Last 8/12: 0 Special Case:						
Nurse: S O'NEILL Manchester Triage:		Time: 14.05 ED Stream: MAJORS Consultant: MURPHY						
Triage Complaint: Abdominal/back pain/dizziness 1/7		Pain Management Score: 7 Analgesia: ✓ Reassess:						
FiO ₂ %	O ₂ Sat %	RR /min	Pulse /min	BP /mmHg	CR	AVPU A	Temp 36.4 °C	<div style="border: 1px solid black; padding: 2px;">NEWS 1</div>
NEWS Chart initiated								
Risk Anticoagulant No	Epilepsy No	Asthma No	Diabetes Yes	Pregnancy No				
Alert Chemo Allergy No				Tetanus				
POCT Weight: 72 Kg Urine: Blood trace BM: 4.8 Protein: 1+ Gluc 2+	mmol/L Nitrite: M	PEFR: Leucocytes: 1+	L/min BhCG	ECG: reviewed ✓ Lab C&S				
Re-Triage Time: (24hr)		Category:		Signed:				
4 hr Breach Time:		12 hr Breach Time:						

Department of Emergency Medicine, Antrim Hospital, 45 Bush Road, Antrim, BT41 2RL

Text:

George Smyth, age 82 years, 3990050001

Address: 17 Oak Avenue, Antrim BT41 4LH

Patient: George Smyth

Address: 17 Oak Avenue, Antrim BT41 4LH

DOB: Age 82 years

H&C: 3990050001

GP: R. Carson, Antrim Surgery, 12 Antrim Road, Antrim

Date: 29/11/2022

Attendance time: 1350

Arrival mode: Ambulance

Triage time: 1405

Triage complaint: Abdominal/back pain/dizziness 1/7

Signed nurse SO'N

Medical history: HTN, IHD, DM

Accompanied by: self

NEWS Score 1	
Pulse: 98	RR: 18
BP: 147/88	SpO2: 97% room air
Temp: 36.4	AVPU: A
BM: 4.8	GCS: 15

Any allergies to medications?

Any blood thinners?

Discriminators

Manchester Triage Category:

Patient streamed to majors

Case 3 Part 1 Facilitator Materials

Patient: George Smith DOB: Age 82 Date: 29/11/22 Episode No. 1
 ED Clinician: BN9162 Grade: F2 Time: 20:15:52
 History
 PC: ① Flank + back pain. Started in garden this morning. Severity 7/10.
 ② Flank radiating to back. Dismissed on standing past hour. No recumbency.
 PMHx: MI, VHD (angina, STEMI by ang), cardiac failure, T2DM (tablets), renal stones
 Dtx: MEDA: aspirin 75mg, bisoprolol 5mg, ramipril 10mg, amlodipine 5mg, statin,
 metformin 1g BD, GIVAPEN
 FHx: Father CVI age 68
 SHx: Smoker

Examination
 C/E: BVPN 65/15/15 apyretic RR 19 SpH 97% LA BP 147/88
 HSI +110 HR 96 reg reg CRT 3S *periph oedema
 Chest clear
 Abdo: tender ① Flank; percussion tenderness; Murphy's neg
 *masses *ascites BS ②

Investigations

Working Diagnoses: 1
 2
 3

Management:

Signed:

Department of Emergency Medicine, Antrim Hospital, 45 Bush Road, Antrim, BT41 2RL

Patient: DOB: Date: Episode No:
 Stat Drug Prescriptions: Check APPT for pre-hospital drugs
 Date Drug (PRN) Dose/ Unit Route Time (24hr) Signed Prescriber Given By Time (24hr)

Tick if continued on Drug Prescription Sheet

Oxygen Prescription

Target O ₂ Saturation (%)	Time (24hr)	Device	Flow Rate (L/min)	Prescriber	Given By	Time (24hr)
88% - 92%						
94% - 98%						
94% - 96%						
94% - 98%						

Requests

ECG	Time	Comments
Radiography	Time	Comments
AHP's / SW	Time	Comments
Bloods	Time	Comments

Additional Comments

Department of Emergency Medicine, Antrim Hospital, 45 Bush Road, Antrim, BT41 2RL

Text:

Date: 29/11/22

Time: 1552

Assessing doctor: Dr B McAfee, F2

PC: 82 yr old man with abdominal and back pain. Started in the garden this morning. Severity 7/10, left flank radiating to the back.

Dizziness on standing for the past hour. No neurology.

PMHx: Hypertension, ischaemic heart disease (angina, STEMI 5y ago), cardiac failure, diabetes mellitus type 2 (tablets), renal stones

DHx: NKDA; aspirin 75mg, bisoprolol 5mg, ramipril 10mg, amlodipine 5mg, atorvastatin 80mg, metformin 1g BD, GTN PRN

FHx: Father had CVA aged 68yrs

SHx: Smoker

O/E: Alert; GCS 15/15

HS I+II+0; HR 96 reg reg; CRT 3s; No peripheral oedema

Chest clear

Abdomen tender left flank; percussion tenderness; Murphy's negative; no masses; no ascites; bowel sounds normal

Urinalysis: Protein 1+; Glucose 2+; Leucocytes 1+; trace of blood

Differential diagnosis:


Plan:

Investigations

Blood work


399 005 0001 SMYTH George (Male / 82 years)

Complete Blood Count


Number	1	Ref. Range (Units)
Collected	29-Nov 2022 14:37	
Signed		
Source	NHSCT	
HGB	* 110	115-165 (g/L)
HCT	0.38	0.37-0.47 (L/L)
WBC	* 11.2	4.0-10.0 ($\times 10^9/L$)
PLT	299	150-450 ($\times 10^9/L$)
RBC	3.8	3.8-5.8 ($\times 10^{12}/L$)
MCV	79	76-100 (fL)
MCHC	325	320-360 (g/L)
MCH	31	27-32 (pg)
NEUT	* 8.2	2.0-7.5 ($\times 10^9/L$)
LYMPH	2.1	1.0-3.5 ($\times 10^9/L$)
MONO	0.3	0.2-0.8 ($\times 10^9/L$)
EOSIN	0.2	0.04-0.4 ($\times 10^9/L$)
BASO	0.03	0.01-0.1 ($\times 10^9/L$)

* Denotes abnormal result


Electrolyte Profile

Number	1	Ref. Range (Units)
Collected	29-Nov 2022 14:37	
Signed		
Source	NHSCT	
Sodium	139	136-145 (mmol/L)
Potassium	3.9	3.5-5.3 (mmol/L)
Chloride	96	95-108 (mmol/L)
CO2	23	22-29 (mmol/L)
Urea	3.1	2.5-7.8 (mmol/L)
Creatinine	55	45-84 ($\mu\text{mol}/L$)
eGFR	>60	<60 (mL/min/1.73m ²)


Liver Profile

Number	1	Ref. Range (Units)
Collected	29-Nov 2022 14:37	
Signed		
Source	NHSCT	
T. Bilirubin	19	<21 (μmol/L)
ALP	118	30-130 (U/L)
AST	29	<32 (U/L)
GGT	40	6-42 (U/L)
ALT	31	<33 (U/L)
Albumin	37	35-50 mg/L

Amylase

Number	1	Ref. Range (Units)
Collected	29-Nov 2022 14:37	
Signed		
Source	NHSCT	
Amylase	199	< 220 (U/L)

CRP

Number	1	Ref. Range (Units)
Collected	29-Nov 2022 14:37	
Signed		
Source	NHSCT	
C reactive protein (CRP)	*122	<5 (mg/L)

Surgical review

HSC Northern Health
and Social Care Trust

George Smyth
3990050001
17 Oak Ave

MULTIDISCIPLINARY PROGRESS NOTES

DATE / TIME	NOTES	SIGNATURE & STATUS
29/11/22	to Dawson CT2 Surgery Cons: Mr M S Adams	
21-25	Surgical r/v	
	ATSL re. pelvic pain	
	ID F2 had contact ID SpR but busy in resin	
	(S2) sent in by GP via ambulance c mild to severe flank pain	
	Patient awaiting CT/US to exclude urolith stone given haematuria on dipstick	
	Patient now complaining of more generalised pain, worse in back, I/O severely feeling light headed + nauseous.	
	Nb B/G 520M - on metformin	
	A - Patient	
	B - RR 24 SpO ₂ 98% 2L	
	C - HR 100, BP 95/65, CRT 3s ?U.O.	
	500ml fluid bolus running	
	D - Alert oriented - BM 6.	
	E - Looks pale + clammy, Temp 36.4	
	Abdo mildly distended	
	generalised tenderness max	
	(L) Flank	
	Not peritoneal	
	Gx: Admission bloods void.	
	ABG - Mb 85, lact 3.7	
	Impression :	
	Plan :	
		Shannon 7686123

Text:

Patient Details: George Smyth, age 82 years, 3990050001

17 Oak Avenue BT41 4LH

Consultant: Mr McAdoo

Reviewing Doctor: S. Dawson CT2 Date/time 29/11/22 21.25

ATSP re increasing abdominal pain. ED F2 had contacted ED SpR but busy in resus.

Sent in by GP referral via ambulance with sudden onset flank pain

Patient awaiting CTKUB to exclude ureteric stone given haematuria on dipstick.

Patient now complaining of more generalised pain, worse in back, 9/10 severity. Feeling light headed and nauseous.

NB B/G T2DM – on metformin

A: patent, able to complete sentences

B: RR 24 Sats 94% 2L

C: HR 100 BP 95/65 CRT 3s, ?U.O, 500ml fluid bolus running

D: alert, orientated. BM 6

E: looks pale and clammy, temp 36.4

O/E : abdo mildly distended, generalised tenderness, max left flank, not peritonitic

Ix: admission bloods noted. ABG – Hb 85, lact 3.7

Impression:

Plan:


Signed S Dawson 7686123

Investigations

Urine analysis


Urine screen

399 005 0001 SMYTH George (Male / 82 years)

Number	1	Ref. Range (Units)
Collected	29-Nov 2022 17:05	
Signed		
Source	NHSCT	
Relevant information	Flank pain ?UTI	
Comments	A positive urine screen should only be used to assist in the interpretation of culture results and the diagnosis of UTI.	
Urine screening	*Positive	
Pus cells	Nil	
Epithelial cells	Nil	
Bacteria	+	


Urine culture

399 005 0001 SMYTH George (Male / 82 years)

Number	1	Ref. Range (Units)
Collected	29-Nov 2022 17:05	
Signed		
Source	NHSCT	
Relevant information	Flank pain ?UTI	
Comments	A positive urine screen should only be used to assist in the interpretation of culture results and the diagnosis of UTI.	
Urine culture	No growth	

VBG

399 005 0001 SMYTH George (Male / 82 years)

Number	1	Ref. Range (Units)
Collected	29-Nov 2022 21:20	
Signed		
Source	BHSCT	
Sample type Blood type Temperature FiO ₂	Blood Venous 37.0°C 21%	
pH	7.45	7.350-7.450
pCO ₂	*6.50	4.30-6.40 (kPa)
pO ₂	*7.12	11.00-14.40 (kPa)
Na ⁺	141	133.0-146.0 (mmol/L)
K ⁺	4.4	3.50-4.50 (mmol/L)
Cl ⁻	98	95.0-108.0 (mmol/L)
Ca ²⁺	1.34	1.150-1.350 (mmol/L)
Glu	4.5	4.0-7.7 (mmol/L)
Lac	*3.7	1.0-1.4 (mmol/L)
tHb	*98.0	115.0-180.0 (g/L)
Hct	*0.29	0.370-0.540 (%)
SO ₂	*79.3	94.0-98.0 (%)
BE	0.6	-2 - +3 (mmol/L)
cHCO ₃	23	22.0-29.0 (mmol/L)

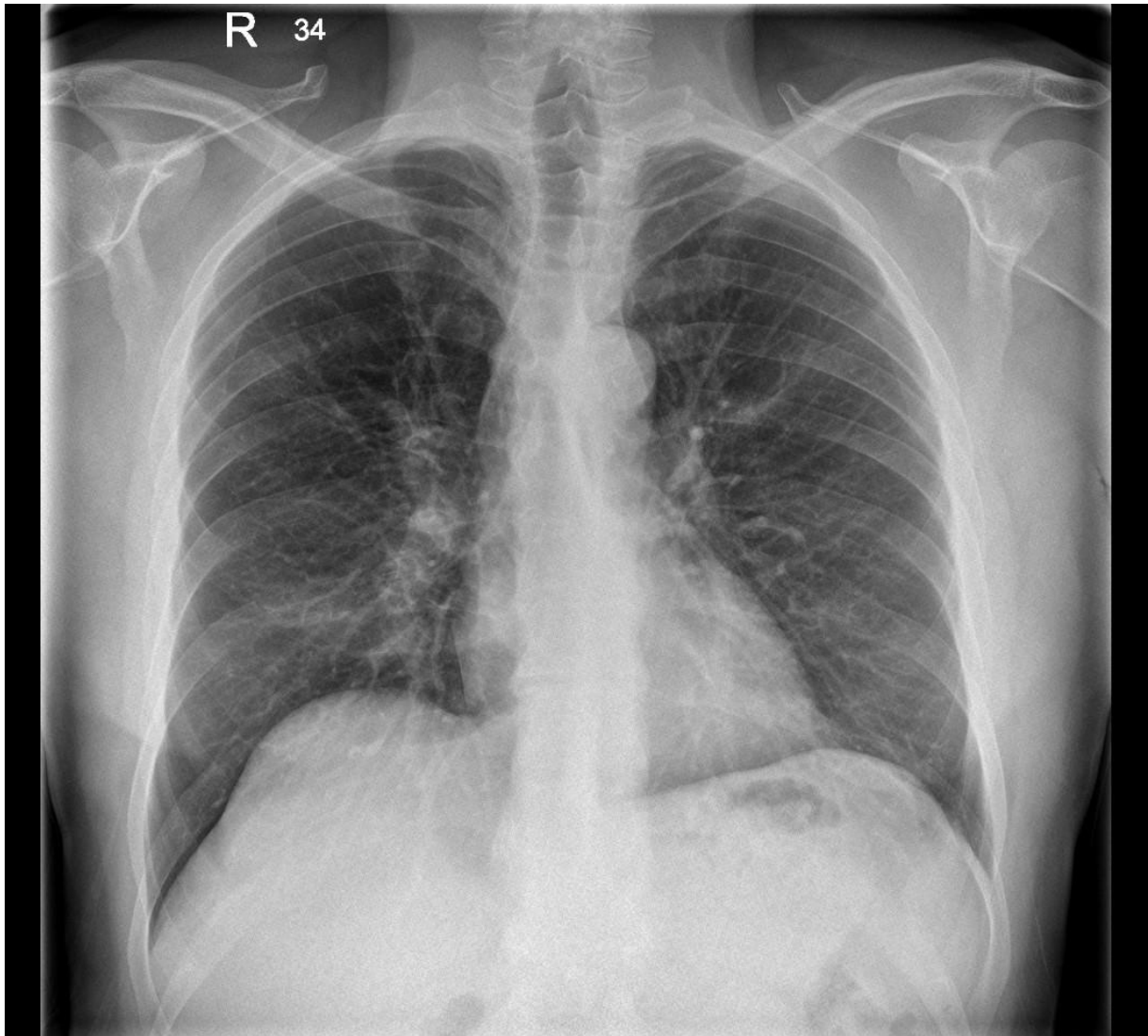
Abdominal X-ray

399 005 0001 SMYTH George (Male / 82 years)



Chest X-ray

399 005 0001 SMYTH George (Male / 82 years)



CT aortic angiogram with IV contrast

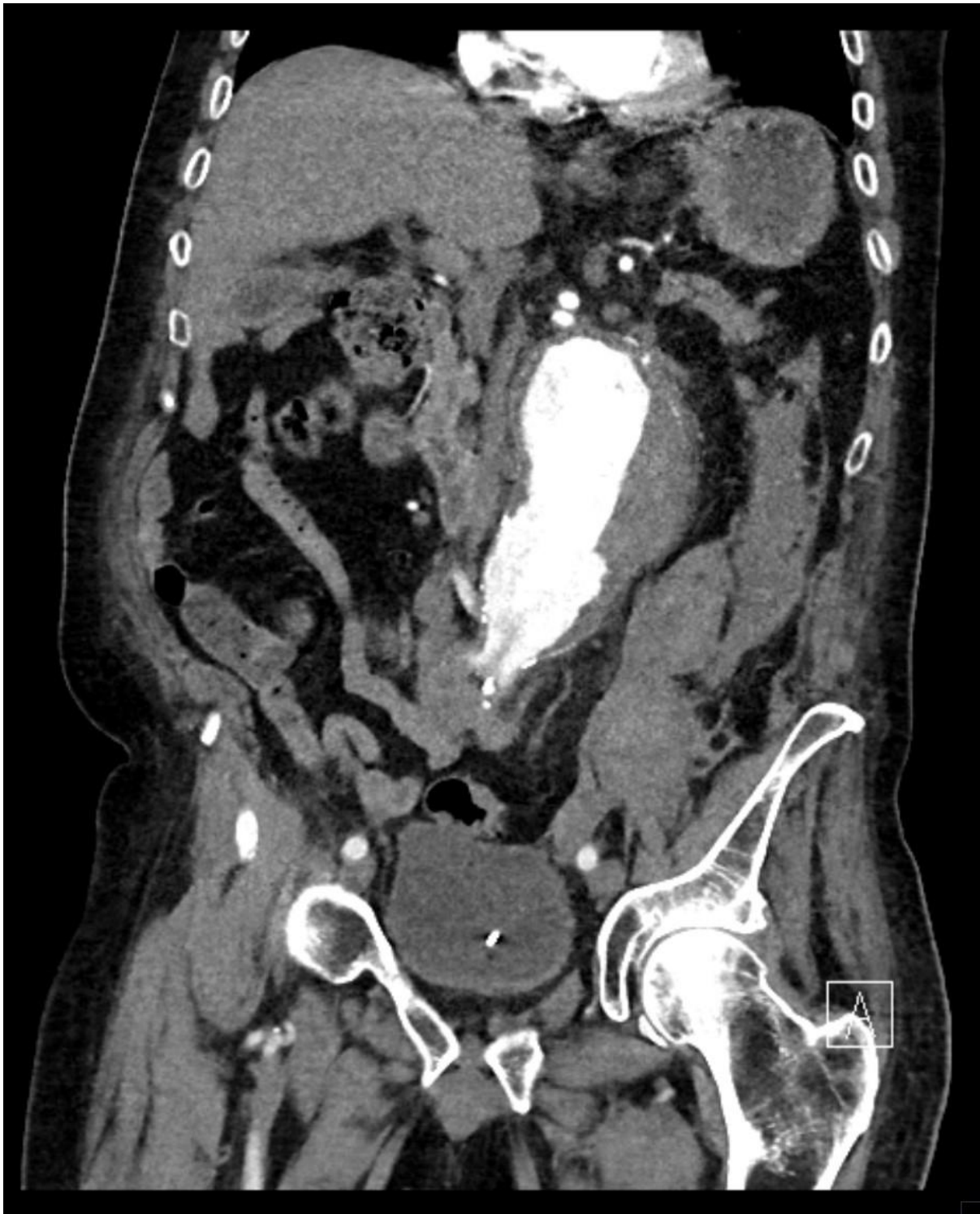
399 005 0001 SMYTH George (Male / 82 years)

CT image axial



The patient had a CT aortic angiogram with IV contrast. Axial, coronal, and sagittal images of the aorta are shown.

CT image coronal



CT image sagittal



Text:

Patient Details: 399 005 0001 SMYTH George (Male / 82 years)

17 Oak Avenue BT41 4LH

Consultant: Mr McAdoo

Date/time 29/11/22 22.10

CT result noted: ruptured infrarenal AAA

Discussed with vascular SPR RVH Ms Redcliffe re transfer: history relayed, imaging reviewed

Patient accepted for theatre in RVH under care of Mr Booth (Consultant Vascular Surgery)

Plan / D/W patient re: error in Dx

Blue light transfer RVH theatres

Permissive hypotension (systolic 70-90mmHg)

G and X match to be sent in RVH

Operation note

The **ROYAL**
HOSPITALS

Operation Notes

Name George Smyth
 Address 17 Oak Avenue,
Antrim, BT41 4LH
 DOB age: 182 years
 Male ☒ Female ☐
 Hospital No. 379 005 0001
 Consultant in charge Mr. Booth
 Consultant anaesthetist in charge Dr. Sandman

Fill in patient details opposite
or affix ID label here

Operation Notes

Theatre 2 Date 29.11.22
 Surgeon Mr. Booth Scrub nurse S/N Nolan
 1st assistant Ms. Redcliffe Anaesthetist Dr. Sandman
 2nd assistant Dr. McCusker

Procedure

Repair of ruptured infra renal AAA

Operative details and diagrams (continue overleaf if required)

GA, ABx
 Midline laparotomy
 Duodenum displaced, clamp applied across aorta, control gained.
 Omintact placed.
 Parietal peritoneum divided, iliac vessels exposed, common iliac arteries clamped.
 Left renal vein tied off, IMA ligated.
 Aneurysm sac opened, thrombus removed, lumbar vessels oversewn with 1.0 silk
 Dacron tube graft -end-end anastomosis proximally with 2.0 prolene, leak test carried out
 Distally end-end anastomosis at level of bifurcation
 Graft flushed.

Text:

399 005 0001 SMYTH George (Male / 82 years)

Address: 17 Oak Avenue, Antrim BT41 4LH

Surgeon details Mr Booth/Ms Redcliffe

Assistant: Dr McCusker

Anaesthetist Dr Sandman

Scrub nurse S/N Nolan

Date/time 29/11/22 23.45

Findings: Ruptured infra renal AAA

Procedure: GA, ABx

Midline laparotomy

Duodenum displaced, clamp applied across aorta, control gained

Omintract placed

Parietal peritoneum divided, iliac vessels exposed, common iliac arteries clamped

Left renal vein tied off, IMA ligated

Aneurysm sac opened, thrombus removed, lumbar vessels oversewn with 1.0 silk

Dacron tube graft –end-end anastomosis proximally with 2.0 prolene, leak test carried out.

Distally end-end anastomosis at level of bifurcation.

Graft flushed

Operative details and diagrams <i>(continued)</i>
<p>Heal clamps removed sequentially, appropriate hypotension seen.</p>
Closure
<p>Sac closed over graft 2-0 vicryl Posterior peritoneum closed 2-0 vicryl Abdomen closed with 1-0 PDS Clips to skin Both feet warm and well perfused at end of procedure.</p>
Drains
<p>Yes/No (if yes record size)</p> <p>No.</p>
Post-operative instructions
<p>Signature <u>Booth</u></p>

Text:

Operative details and diagrams (continued)

Ileal clamps removed sequentially, appropriate hypotension seen

Closure

Sac closed over graft 2.0 vicryl

Posterior peritoneum closed 2.0 vicryl

Abdomen closed with 1.0 PDS

Clips to skin

Both feet warm and well perfused at end of procedure

Drains

No

Post-op instructions

Signature Booth

NO ADDITIONAL FACILITATOR MATERIALS