Canberra Hospital and Health Services

Medical - in - Confidence

Haematology

(Discharge Summary)

To:
Discharged To: Home

First Admitted: 18/05/2018 17:45

Discharge Date: 02/06/2018 16:50
Ward/Location: 14B
Discharge Method: Specialist Medical Practitioner

Encounter History

Episode	Admission Date	Discharge Date	Episode Type	Discharge Unit	Discharge Doctor	Discharge Destination
51646694	18/05/2018 17:45	02/06/2018 16:50	Inpatient Service	Haematology		Home

Primary Discharge Diagnosis
Febrile neutropenia

Additional Diagnosis
pancytopoenia

Complications Treated during this Admission
Pancytopenia

Presenting History & Symptoms (including reason for encounter)
presented to rapid assessment unit with febrile neutropenia in the setting of hairy cell leukaemia (cladribine C1 16/4/18)
- Fatigue, lethargy and fevers since stopping prednisolone

Past Medical History
1. Hairy cell leukaemia (Known to)
- Diagnosed April 2018, on Cladribine SC
2. Hypertension
3. Hypercholesterolemia

Summary of Investigations / Observations
Initial assessment
- right middle zone crackles + wheeze

ECHO
- no intracardiac mass or vegetation, no evidence endocarditis

US abdomen
- Slightly enlarged liver without biliary obstruction or focal liver abnormality. Normal portal and venous hepatic vascularity.

Summary of Management
1. Febrile neutropenia
- initially empirically treated as pulmonary infection with tazocin and azithromycin

- Bactrim / vacinex continued
- Filgastim for neutropenia
- Ongoing fevers and tachycardia on above. Azithromycin switched to vancomycin
- Blood culture positive for Strep viridans on one specimen
- Tazocin changed to cefepime as per ID advice
- TTE to rule out endocarditis 01/06:
- Commenced on a weaning dose of prednisolone
- Antibiotics ceased 01/06/18
- ECHO showed no vegetations/endocarditis

2. Pancytopenia
- Transfusions (RBC, platelets) as required
- Filgastim as above

3. Rash
- widespread rash, not itchy, petechial/vasculitic in appearance
- biopsies: consistent with drug reaction
- Resolved significantly with prednisolone

4. Derranged LFTs
- Asymptomatic
- Abdo U/S NAD
- ?secondary to Abx, (as outlined above) which were ceased subsequently

Pending Results / Investigations for GP to Follow-up
Vasculitic screen

Ongoing Issues / Recommendations to GP
Dear

Thank you for your ongoing care of

Please be aware of the following:
- He will require 2x/week bloods via haem outpatients for monitoring, and to increase to 3x weekly if bloods worsening
- He has a pentamidine inhalation organised for the 4/6/1028 at 11:30am as below
- He has had his Bactrim ceased, for review to ?restart

Kind regards,
Haematology team

Follow-up Required
· Service Requested: Blood tests, Organisation: Haem outpatients, Appt Details: 2 times a week
· Service Requested: Pentamidine inhalation, Organisation: Haem outpatients, Appt made: Yes, Patient Advised: Yes, Appt Details: 11:30 on 04/06/2018, Location: Level 4, Building 19, TCH

Patient Instructions
Dear

We wish you all the best in your recovery
- You have a schedule for bloods 2x/week with COT, to increase to 3x/week if worsening
- You have your inhalation scheduled as above on the 4/6/18 at 11:30am
- If you are feeling unwell, febrile or have any concerns, don't hesitate to return for review.

Kind regards,
Haematology team

Medications on Admission
· Atorvastatin, 20 mg nocte PO

- Irbesartan, 150 mg nocte PO
- Bactric DS, 160/800 mg Mon/Wed/Fri PO
- Allopurinol, 300 mg mane PO

Complete List of Medications on Discharge

- Prednisolone, 30 mg daily PO (Supply on Discharge), Supply: as below, Comments: reduce by 5mg a week to 10mg a day, then reduce by 2.5mg per week to 2.5mg, then 2.5mg alternate days for a week then stop

Details of Pre-Inpatient Medications Ceased during this Admission

- fluconazole, Comments: LFT derangement

Allergies / Sensitivities

- Substance: tatracycline, Details: Lingual pustules

Relevant Pathology

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Hematology 02/06/2018 05:38 : FBC & General Haem
1.)Image : CURRENT REPORT
  WCC    :* Moderate toxic changes.
  RBC    :* Elliptocytes: some noted.
  PLT    :* Platelets appear reduced on film.

TOTAL NEUT: is the sum of Neutrophils, Bands, Myelocytes,
Metamyelocytes.
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CUMULATIVE REPORT

Req No:	P182127	P184213	P194689	P188784	P188826		
Date:	29/05/18	30/05/18	31/05/18	01/06/18	02/06/18		
Time:	06:44	07:04	05:55	06:49	05:38		
Hosp.:	TCH	TCH	TCH	TCH	TCH	Units	Ref Range
BLOOD COUNT							
Hb	74L	73L	75L	80L	76L	g/L	135-180
WCC	0.5L	0.6L	1.0L	1.7L	1.9L	x10^9/L	4.0-11.0
Plat	12L	11L	11L	11L	11L	x10^9/L	150-400
RCC	2.49L	2.49L	2.57L	2.73L	2.57L	x10^12/L	4.30-6.50
HCT	0.21L	0.21L	0.22L	0.23L	0.22L	L/L	0.40-0.53
MCV	85	85	85	85	84	fL	80-96
MCH	29.6	29.2	29.3	29.3	29.4	pg	27.0-33.0
MCHC	349	344	346	346	349	g/L	320-360
RDW	13.6	13.5	13.4	13.4	13.6	%	11.0-14.5
White Cell Differential							
Tot Neut	0.30L	0.40L	0.67L	1.38L	1.50L	x10^9/L	1.8-7.5
Promy				0.05H	0.02H	x10^9/L	0.00
Myel				0.10H	0.08H	x10^9/L	0.00
Meta		0.01H		0.02H	0.10H	x10^9/L	0.00
Bands				0.05	0.08	x10^9/L	0.00-0.5
Neut	0.30L	0.40L	0.67L	1.21L	1.25L	x10^9/L	1.8-7.5
Lymph	0.18L	0.16L	0.25L	0.15L	0.28L	x10^9/L	1.2-4.0
Mono	0.02L	0.04L	0.08L	0.12	0.10	x10^9/L	0.10-1.0
Eos	0.00					x10^9/L	0.00-0.7
Baso	0.00					x10^9/L	0.00-0.2
NRBC			2H		1H	/100WCC	00 Status: F

Chemistry 02/06/2018 05:38 : Routine Chemistry

1.) Image : --

Request No:	P182127	P184213	P194689	P188784	P188826		
Date:	29/05/18	30/05/18	31/05/18	01/06/18	02/06/18		
Time:	06:44	07:04	05:55	06:49	05:38		
Hospital:	TCH	TCH	TCH	TCH	TCH	Units	Ref Range
Fasting:	No	No	No	No	No		
Sodium	139	139	139	142	138	mmol/L	135-145
Potassium	4.2	4.2	4.2	4.4	4.2	mmol/L	3.5-5.2
Chloride	104	105	105	105	105	mmol/L	95-110
Bicarbonate	27	26	26	25	27	mmol/L	22-32
Anion Gap	12	12	12	16	10	mmol/L	8-16
Urea	6.4	6.8	7.3	8.0H	7.6H	mmol/L	2.5-7.5
Creatinine	52L	51L	54L	54L	51L	umol/L	60-110
Est. of GFR	>90	>90	>90	>90	>90	*	>90
Glucose	5.0	4.9	5.0	4.9	5.2	mmol/L	3.5-5.5
Osmol-calc	288	289	289	296	288	mOsm/kg	280-300
Bili Tot.	9	8	9	8	9	umol/L	2-20
ALT	251H	450H	360H	438H	362H	U/L	<40
ALKP	91	121H	119H	122H	110	U/L	30-110
New GGT	83H	146H	158H	231H	232H	U/L	<71
Protein	52L	53L	56L	58L	58L	g/L	60-80
Albumin	29L	30L	32L	33	33	g/L	33-50
Globulin	23L	23L	24	25	25	g/L	24-41
Calcium	2.16	2.16	2.23	2.27	2.26	mmol/L	2.10-2.60
CorrCalcium	2.38	2.37	2.41	2.44	2.42	mmol/L	2.10-2.60
Phosphate	1.00	0.97	1.03	1.19	1.46	mmol/L	0.75-1.50
Magnesium	0.99	0.95	0.92	0.97	0.93	mmol/L	0.70-1.10
CRP	53.0H	39.9H	25.4H	13.7H	6.9H	mg/L	<6.0
Haemolysis Index							
Haemolysis	0.01	0.01	0.01	0.02	0.01		

Estimated GFR(CKD-EPI Formula)
eGFR is calculated using creatinine, sex and age of the patient ONLY.
It is less accurate in situations of rapidly changing kidney function,
extremes of body size or age and severe malnutrition.

*GFR units are: mL/min/1.73m2

General Glucose Comment:
The above glucose reference range is valid for FASTING samples on males
or non-pregnant females.
The reference range for RANDOM GLUCOSE is 3.5-7.7 mmol/L.
A RANDOM GLUCOSE >11.0 mmol/L is diagnostic of DM.

Please note: As of the 14/09/2017 some minor reference interval changes
have been made.
Pathology (February 2015) 47(2), pp. 138-144

Age Related Reference Intervals
Where appropriate, the age-related Reference Interval is quoted for
each analyte. These Reference Intervals are available from the laboratory. Status:
F

Microbiology 24/05/2018 17:34 : Faeces MC&S

1.) Image : LAB.NUMBER: M102246
SPECIMEN: FAECES
MACROSCOPIC APPEARANCE: Liquid

MICROSCOPY:

Leucocytes:	NOT Seen
Erythrocytes:	NOT Seen
Wet Preparation:	No trophozoites, ova, cysts or parasites seen in direct microscopy.

CULTURE:
Campylobacter, Salmonella and Shigella NOT isolated.

CLOSTRIDIOIDES (CLOSTRIDIUM) DIFFICILE:
Clostridioides difficile enterotoxin (Toxin A and/or B): NOT Detected

Clostridioides difficile was NOT detected in faeces using a rapid membrane enzyme immunoassay test.

In cases where clinical suspicion of Clostridioides difficile infection is high, please contact the clinical microbiologist or microbiology registrar on 62442514 to discuss additional testing options. Status: F

Microbiology 23/05/2018 08:46 : Blood Cultures
1.) Image : LAB.NUMBER: M102115
SPECIMEN: BLOOD CULTURE
DESCRIPTION: PERIPHERAL
BLOOD CULTURE RESULT:

Aerobic Bottle:	No growth after 48 hours incubation
Anaerobic Bottle:	No growth after 48 hours incubation

No further report will be issued unless growth occurs. Status: F

Molecular 20/05/2018 17:00 : Viral PCR
1.) Image : Specimen Type: Flocked Swab in VTM
Site: Nasopharyngeal

TEST: Respiratory Pathogen Test Report

METHOD: Real-Time PCR

Influenza A:	Not Detected
Influenza A Subtype:	Not Detected
Influenza B:	Not Detected
RSV:	Not Detected
Rhinovirus/Enterovirus:	Not Detected
Parainfluenza Virus 1:	Not Detected
Parainfluenza Virus 2:	Not Detected
Parainfluenza Virus 3:	Not Detected
Parainfluenza Virus 4:	Not Detected

Adenovirus:	Not Detected
Human Metapneumovirus:	Not Detected
Bordetella pertussis:	Not Detected
Mycoplasma pneumoniae:	Not Detected

This result must be interpreted with clinical findings.

The AusDiagnostics Respiratory Pathogens Panel C Assay detects prevalent strains of Influenza A and B, Respiratory Syncytial Virus, Rhinovirus, Enterovirus, Human parainfluenza virus (1-4), Adenovirus, Human Metapneumovirus, Bordetella species including pertussis and Mycoplasma pneumoniae. A negative result cannot exclude any of the tested agents particularly at levels below the limit of detection of this assay.

For interpretation advice, please contact the Clinical Microbiologist or Registrar on duty on (02) 6244 2514. Status: F

Microbiology 19/05/2018 03:03 : Urine MC&S
1.)Image : Lab. Number: M101708
SPECIMEN: URINE
DESCRIPTION: Midstream

MICROSCOPY:

Leucocytes	< 10 x 10^6/L	Normal value <10 X 10^6/L
Erythrocytes	< 10 x 10^6/L	Normal value <10 X 10^6/L
Squamous Epithelial Cells	< 10 x 10^6/L	Normal value <10 X 10^6/L

A squamous epithelial cell count of >10 x 10^6/L is suggestive of improper collection.

No casts seen in centrifuged deposit.

Number of red cells present was insufficient to allow assessment of red cell morphology.

DIPSTICK CHEMISTRY:

pH	5	Normal value 4.5 - 8.0
Protein	Negative	Normal value < 0.3 g/L
Glucose	Negative	Normal value < 2 mmol/L
Nitrite	Negative	Normal value is Negative

MICROBIAL ANTIGENS:

Streptococcus pneumoniae	Not tested
Legionella pneumophila serogroup 1	Not tested

Streptococcus pneumoniae urinary antigen testing is restricted to patients in the intensive care unit(ICU) as it has poor sensitivity in non-ICU patients.

If you have any queries about this result please phone a specialist Microbiologist, or a Registrar or Senior Scientist at The Canberra Hospital Microbiology Laboratory on 62442514.

Urinary antigen testing is only performed in this laboratory where there is a strong clinical suspicion of Legionnaire's disease. As

this was not clearly stated in the history or on the request form, please contact the Microbiologist or Microbiology Registrar at The Canberra Hospital if testing is still required.

COLONY COUNT:
<10^6/L

Normal MSU values for	
Males	<10^6/L
Asymptomatic Females	<10^8/L
Symptomatic Females	<10^5/L

CULTURE:
No growth after 24 hours incubation. Status: F

Microbiology 18/05/2018 11:00 : Blood Cultures
1.) Image : LAB.NUMBER: M102605
SPECIMEN: BLOOD CULTURES
BLOOD CULTURE RESULT:

Aerobic Bottle:	POSITIVE	after 15 hours incubation
Anaerobic Bottle:	POSITIVE	after 12 hours incubation

GRAM STAIN COMMENT:
Gram positive cocci resembling Streptococcus.

CULTURE:

1. Streptococcus salivarius (Viridans Streptococcus)

The significance of this isolate is unclear.

If not already done, repeat blood cultures should be collected to help assess the significance of this isolate in conjunction with the overall clinical history and signs. This may include if there is any breach in skin/mucosal barrier integrity, infection associated with intravascular catheters or infective endocarditis.

If you have any queries about this result please phone a specialist Microbiologist, or a Registrar or Senior Scientist at The Canberra Hospital Microbiology Laboratory on 62442514.

SENSITIVITIES: 1

Penicillin	I
Clindamycin	R
Ceftriaxone	S

PENICILLIN MIC = 0.38 ug/ml Status: F

Lab #: 2018T010224

NATURE OF SPECIMEN
SKIN

HISTORY
Diffuse petechial rash. Hairy cell leukaemia. Febrile neutropaenia.
Rash thought to be drug related ?vasculitis.

MACROSCOPIC DESCRIPTION
A. "LEFT FOREARM"
A punch biopsy measuring 5mm in diameter and 5mm in depth.
1-1 AE

B. "LEFT FOREARM"
Tissue submitted fresh for IF. A solitary punch biopsy 4mm in diameter and 7mm in depth. Submitted in HAMS. (DO)

MICROSCOPIC
A.B. SKIN BIOPSIES LEFT FOREARM
The upper and mid dermis show oedema with areas of marked oedema of the papillary dermis with incipient subepidermal bulla formation. There is a very scant perivascular infiltrate of lymphocytes. Foci of extravasated erythrocytes are seen. One superficial capillary vessel show a tiny luminal deposit of fibrin. There are a few foci of interface inflammation with basal necrotic keratinocytes, lying at the tips of rete.
Direct immunofluorescence studies are negative for all standard immune reactants.

The histological pattern combines, urticaRia like oedema with vasculitis changes and a component of interface inflammation.
A fully developed leucocytoclastic vasculitis is not seen, but this may reflect the patient's leucopenia.
Overall the mixed histological pattern would favour a drug reaction.

DIAGNOSIS
A.B. SKIN BIOPSIES LEFT FOREARM
- CONSISTENT WITH DRUG REACTION
- PAUCICELLULAR VASCULITIS FEATURES WITH INTERFACE INFLAMMATION

Reported by
Phone

Relevant Diagnostic Imaging
Abdomen 01/06/2018 08:56
1.)Abdomen :

DATE OF EXAM: 01/06/2018

Examination: US - Abdomen

Examination: Abdomen

Clinical history: 63M WITH HAIRY CELL LEUKAEMIA, PROGRESSIVELY DERANGED LFTS

Findings:
Reference is made to recent CT chest/abdomen dated 22/5/2018.
Targeted ultrasound focused on the right upper quadrant (recent CT).

The head and body of the pancreas have a normal appearance. The pancreatic duct is of normal calibre measuring 1 mm.

The liver is 17 x 17.1 cm in the midclavicular line (slightly increased in size) but has a diffuse homogenous echo pattern, a smooth contour and no focal lesions.

The main portal vein is 10.4 mm and demonstrates hepatopedal flow.

The hepatic veins appear patent.

The CBD IS 2.7 mm.
The gallbladder has a normal appearance.

Impression: Slightly enlarged liver without biliary obstruction or focal liver abnormality. Normal portal and venous hepatic vascularity.

Status: Final
Preliminary Reading Doctor: Authorising Doctor:

Chest 19/05/2018 13:58
1.)Chest :

DATE OF EXAM: 19/05/2018

Examination: XR - Chest

CLINICAL HISTORY AND FINDINGS:
X-RAY CHEST

CLINICAL NOTES:

Lateral view chest x-ray. Septic screen.

COMPARISON:

Radiograph 30/4/2018.

FINDINGS:

The lungs are hyperinflated, with flattening of the hemidiaphragms. There are small bilateral pleural effusions. No airspace consolidation.

IMPRESSION:

No airspace consolidation.

Electronically signed by

Radiologist

BSc, MBChB (Otago)

FRANZCR

Status: Final
Preliminary Reading Doctor: Authorising Doctor:

Chest/Abdo w/wo Contrast 22/05/2018 13:46
1.)Chest/Abdo w/wo Contrast :

DATE OF EXAM: 22/05/2018

Examination: CT - Chest/Abdo w/wo Contrast

Examination: Chest/Abdo w/wo Contrast

Clinical history: HAIRYCELL LEUKAEMIA READMISSION FEBRILE
NEUTROPAENIA. NO ONGOING SOURCE DETECTED. ?FUNGAL INVOLVEMENT

Technique: CT chest, abdomen and pelvis with IV contrast.

FINDINGS:
1. CHEST:
Comparison is made with the previous CT chest performed 23/4/2018

There are small bilateral pleural effusions, largest on the right
measuring up to 3.4 cm in maximal depth. These have developed since the
previous study.
There is no pericardial effusion.

Bibasal atelectasis is noted.
There is no consolidation.
No suspicious pulmonary nodules are seen.
Within the limitations of the study, no filling defect is seen within the
carotid arterial tree.

There are several mildly enlarged mediastinal and right hilar lymph nodes. The largest is in the subcarinal region measuring 12 mm in short axis. These were evident on the previous study and are stable. Mildly enlarged lymph nodes are also noted within the epicardial fat on the right measuring up to 10 mm in short axis.
No enlarged axillary or supraclavicular lymph nodes are seen.

There are no suspicious osseous lesions.

2. ABDOMEN AND PELVIS:
There is extensive stranding within the central mesentery following the SMA associated with several enlarged lymph nodes which measure up to 9 mm in maximal diameter. This has developed since the previous CT scan. Further stranding is evident within the pericolic gutters bilaterally. A small amount of ascites is evident within the perisplenic space, perihepatic space and within the pelvis. This constellation of findings are suggestive of mesenteric panniculitis.

Further enlarged coeliac axis, porta hepatic and portacaval and peripancreatic lymph nodes are also noted measuring up to 20 mm in short axis portacaval region. These have reduced in size previous study (previously measuring up to 26 mm

The spleen is enlarged measuring approximately 15 cm, however this has also reduced in size when compared with the previous study, previously measuring 17.3 cm in length.

Moderate hepatomegaly with the liver measuring 24 cm cc..
The enhancing vascular lesion evident within segment 5 on the previous CT chest is not well visualised on today's study. A further 5 mm vascular lesion is noted within segment 2 on the arterial phase images of the chest. Series 6 image 100. These are non-specific, however likely represent Small haemangiomas.

The gallbladder is not distended, however appears mildly thick walled with pericholecystic fluid evident surrounding the gallbladder. Pericholecystic fluid was also noted surrounding the gallbladder on the previous CT. Acute cholecystitis is therefore thought unlikely, however not entirely excluded. Please correlate clinically.

Note is made of an umbilical hernia which contains mesenteric fat. The small and large bowel is unremarkable.

No suspicious osseous lesions are seen.

IMPRESSION:
1. Small bilateral pleural effusions which have developed since the previous CT.
2. Stable mildly enlarged mediastinal and epicardial lymph nodes.
3. Stranding within the central mesentery associated with enlarged lymph nodes. These findings are suggestive of mesenteric panniculitis. This has developed since the previous CT chest.
4. Ascites.
5. Interval improvement in coeliac axis, porta hepatic and porta caval lymphadenopathy and splenomegaly when compared with the previous CT chest.
6. Pericholecystic fluid.? Reactive. Acute cholecystitis is thought unlikely, however not entirely excluded. Please correlate clinically.
7. No alternative cause for fevers within the chest or abdomen evident on this study.

Status: Final
Preliminary Reading Doctor: ; Authorising Doctor

OPG- Dental 21/05/2018 13:18
1.)OPG- Dental :
URN
Reading Dr:

DATE OF EXAM: 21/05/2018

Examination: XR - OPG- Dental

CLINICAL HISTORY AND FINDINGS:
OPG

CLINICAL NOTES:

63-year-old male. Febrile neutropenia on a background of hairy cell leukaemia. Strep viridans on blood cultures.? Dental abscess.

FINDINGS:

Comparison: Nil available

There is long-standing absence of the 27 and 46 teeth. Fillings lie in situ. No large dental caries are demonstrated and there is no destructive osseous lesion in relation to the teeth. Dentition is as displayed for dental review.

The temporo-mandibular joints appear normal.

The maxillary antra are clear.

Electronically signed by

Radiologist

BSc, MBChB (Otago)

FRANZCR

IMPRESSION:
As Above.

Status: Final
Preliminary Reading Doctor. Authorising Doctor:

Authorisation
Completed on behalf of haematology team, patient not known to me.

Amendment Reason
Amended at ***02/06/2018 13:24*** *by*
Medications amended as per patient, who is only on prednisolone on discharge

Clinician:
For Consultant:
Signature:
Date: 02/06/2018 13:24

Medical Records: 6244 2124 GP Liaison Phone: 6244 4183 GP Liaison Fax: 6205 2826