‘Let me bend your ear’

Renal case presentation

Medicine 2019 – Royal College of Physicians Conference

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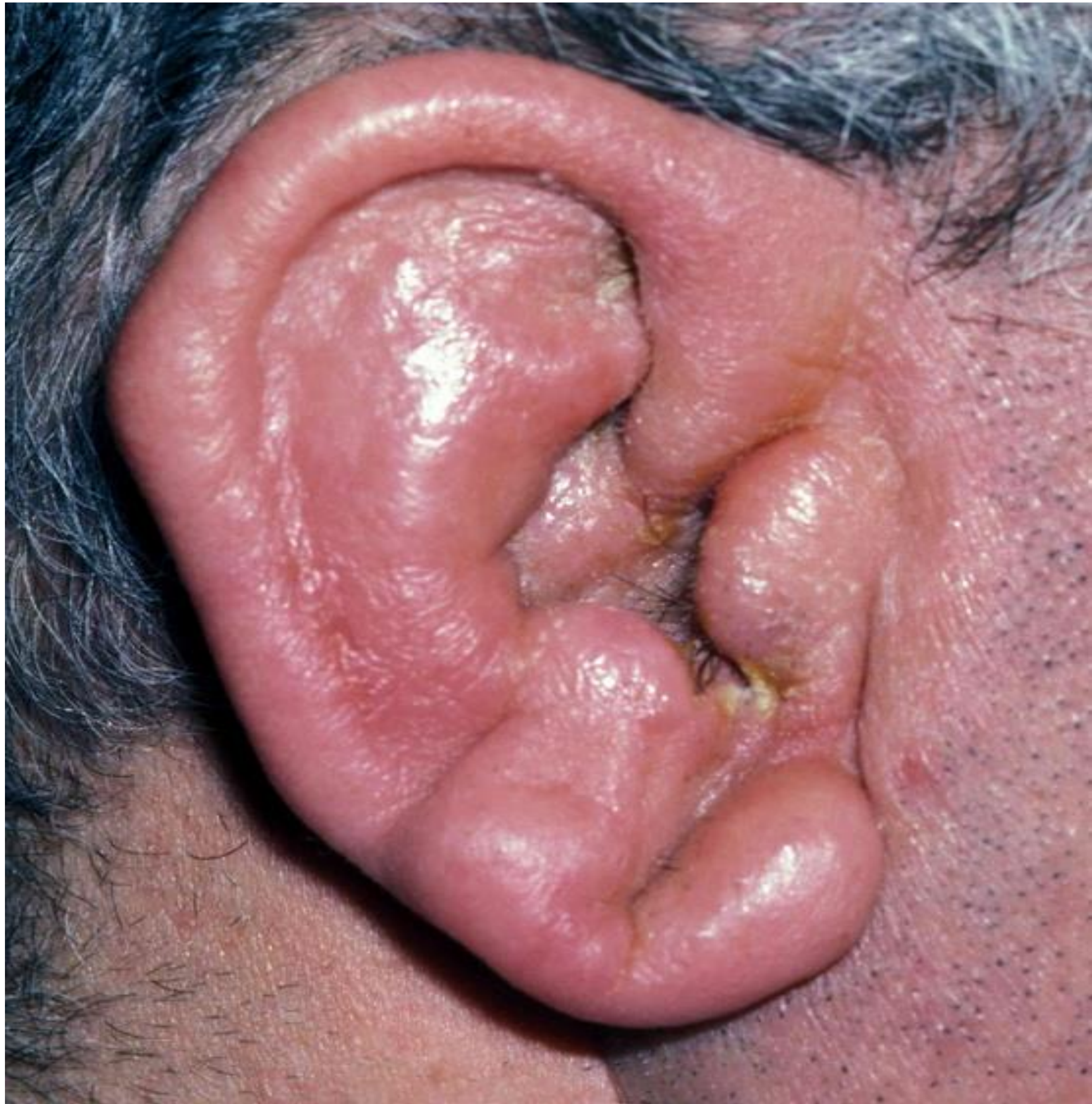
Background

- 66 year old male.
- Previous episode of gout several years ago, nil other PMH.
- No regular medications.
- University lecturer.
- Non-smoker, moderate alcohol (7-10 units weekly).

First presentation – A&E –11/06/2018

- Attends A&E with 2 week history of swollen and tender left ear.
- Previously treated with Flucloxacillin and later Co-Amoxiclav by GP, no improvement.
- Seen by ENT in A&E, diagnosis of perichondritis.
- Commenced on Ciprofloxacin and discharged (no follow up).



Second presentation – ENT – 20/06/2018

- Symptoms (pain and swelling) worsen.
- Attends A&E:

WCC 4.4 x 10^9/l	(4-11 x 10^9/l)
CRP 61 mg/l	(<10 mg/l)
ESR 69 mm/h	(0-27 mm/h)
Urea 4.7 mmol/l	(2.5-7.8 mmol/l)
Creatinine 78 umol/l	(62-115 umol/l)
eGFR 86 ml/min	(>90 ml/min)

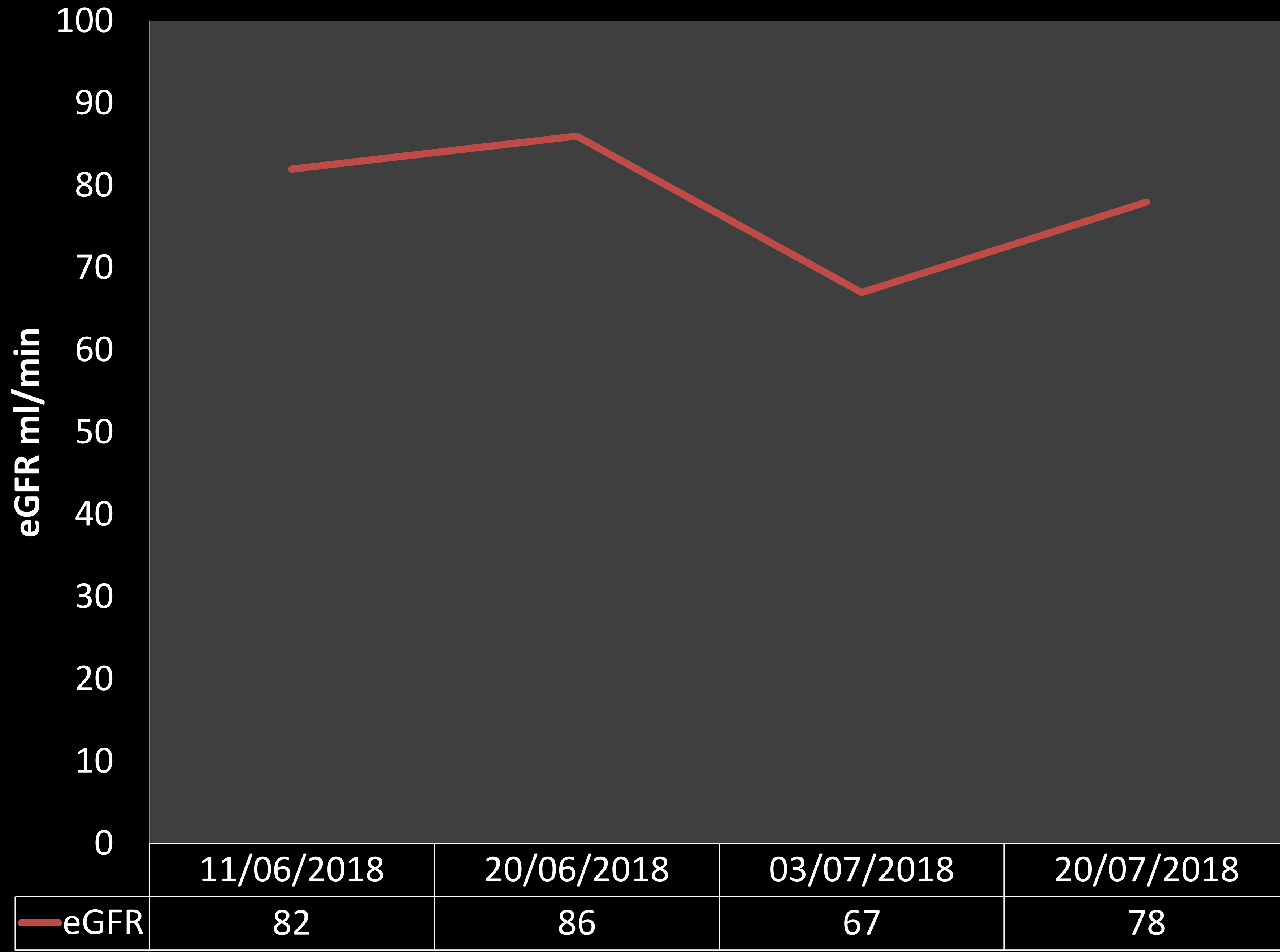
- Admitted under ENT for IV Piperacillin/Tazobactam.
- Improving after 3 days, discharged with no antibiotics.

ENT Outpatients – 02/07/2018

- Admitted from clinic with recurrence of symptoms.
- Relapsing polychondritis felt to be a possibility.
- Commenced on:

  Prednisolone 40mg OD
  Omeprazole 40mg OD
  Co-trimoxazole 480mg OD
  Adcal D3 TT OD
  Alendronic Acid 70mg once weekly

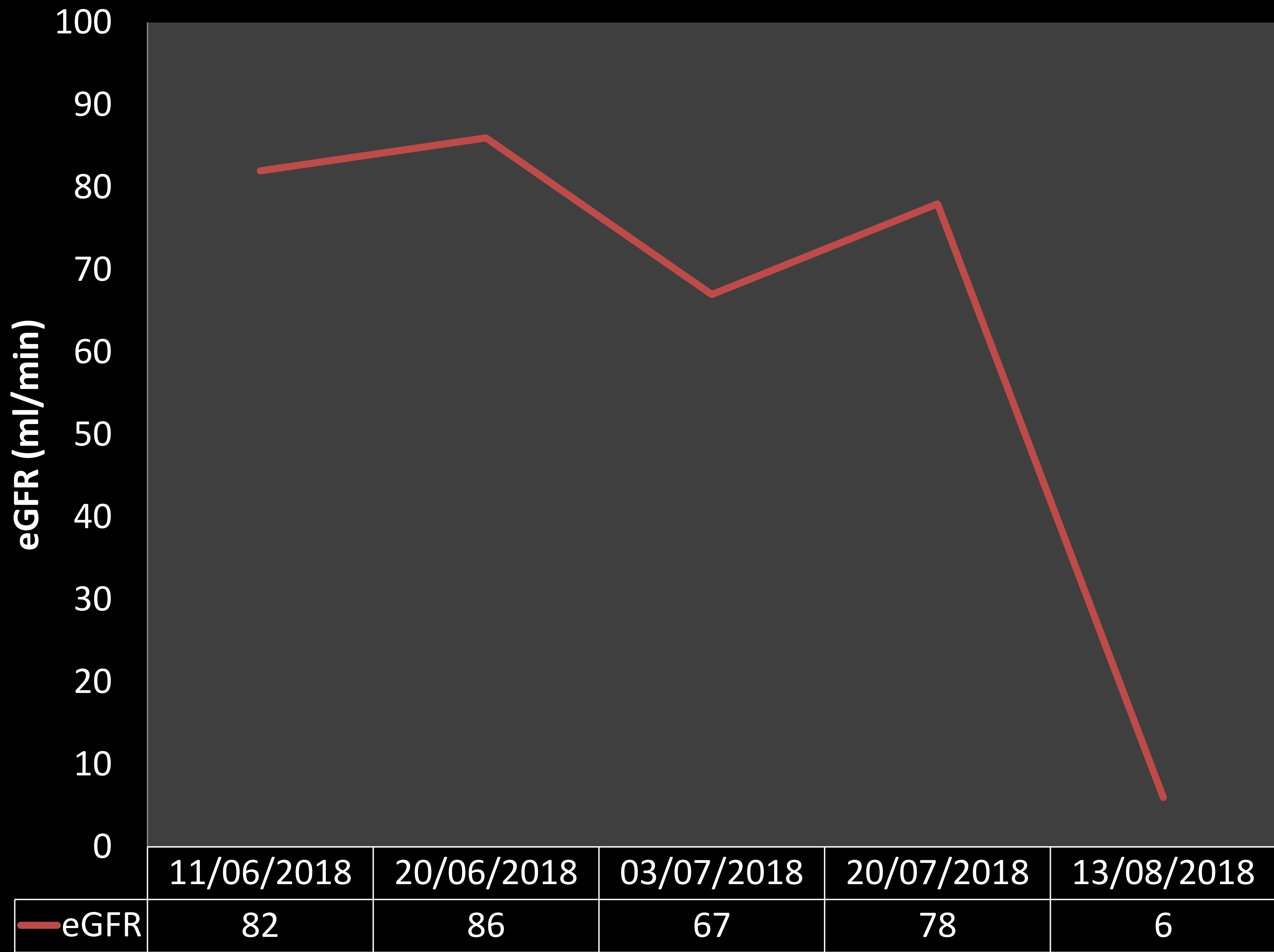
- Above in addition to Piperacillin/Tazobactam and later Ciprofloxacin.
- Referred to Rheumatology as OP, discharged on 20/07/2018.


eGFR ml/min
100
90
80
70
60
50
40
30
20
10
0
11/06/2018
20/06/2018
03/07/2018
20/07/2018
eGFR
82
86
67
78

Acute Medicine – 13/08/2018

- Attends A&E ‘generally unwell’ and oligo-anuric.
- Ear symptoms largely quiescent.
- Urine dipstick – protein 2+
- Ultrasound KUB – no hydronephrosis.
- Bloods:

Potassium 6.7 mmol/l	(3.6 – 5.2 mmol/l)
Urea 32.1 mmol/l	(2.5-7.8 mmol/l)
Creatinine 829 umol/l	(62-115 umol/l)
eGFR 6 ml/min	(>90 ml/min)


100
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eGFR (ml/min)
11/06/2018
20/06/2018
03/07/2018
20/07/2018
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eGFR
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Transfer to Renal

- Commenced on haemodialysis.

- Autoimmune and connective tissue screen negative.

  IgM 2.55g/l (0.5-2g/l)

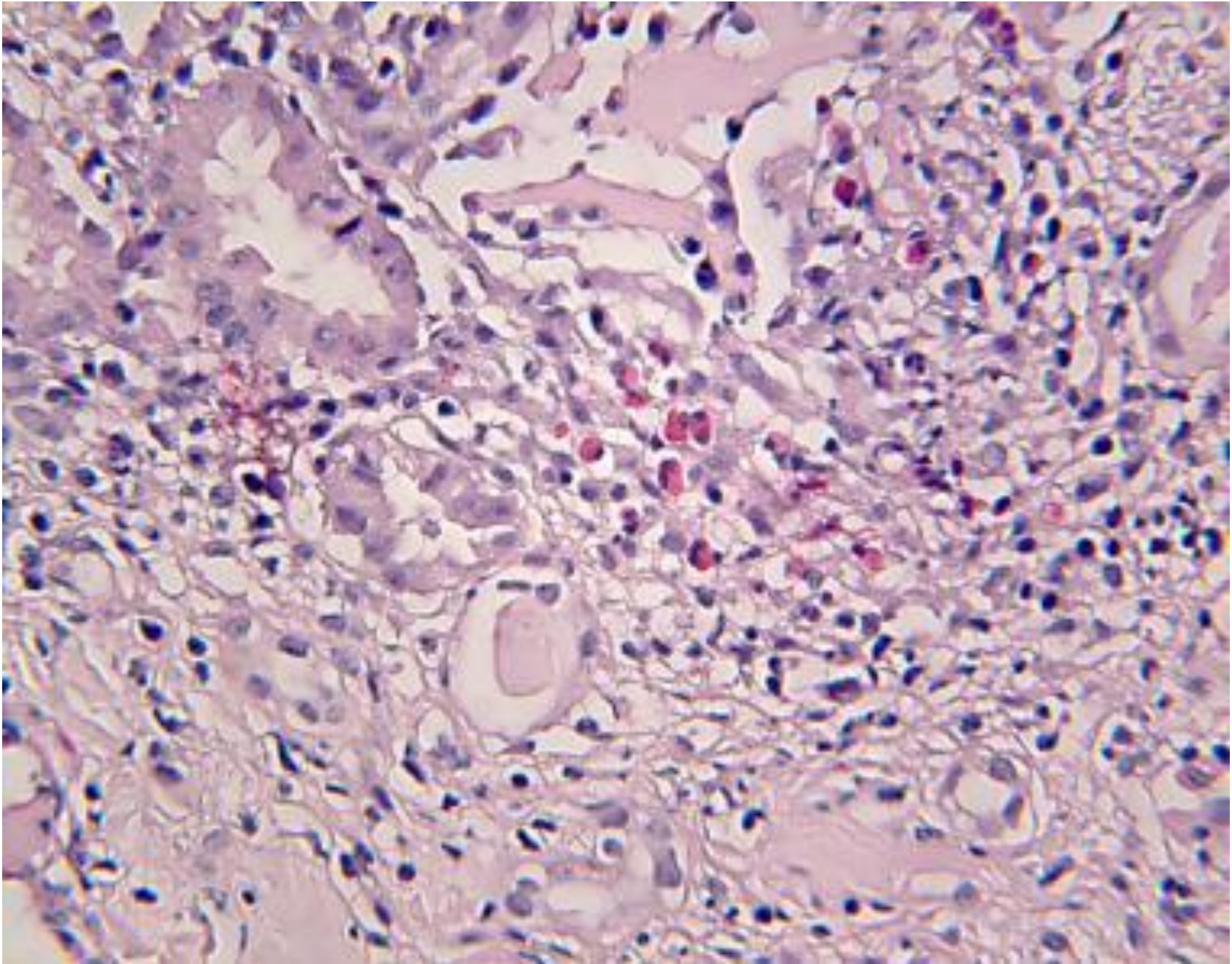
  Electrophoresis normal

  CRP > 500 mg/l (<10 mg/l)

  ESR 120 mm/h (0-27 mm/h)

  WCC 16.8 x 10^9/l (4-11 x 10^9/l)

- Unclear cause for renal failure – renal biopsy performed.



Further management

- Biopsy: severe tubulo-interstitial nephritis.
- Eosinophils 0.1 x 10^9/l (0 – 0.4 x 10^9/l)
- Commenced on:

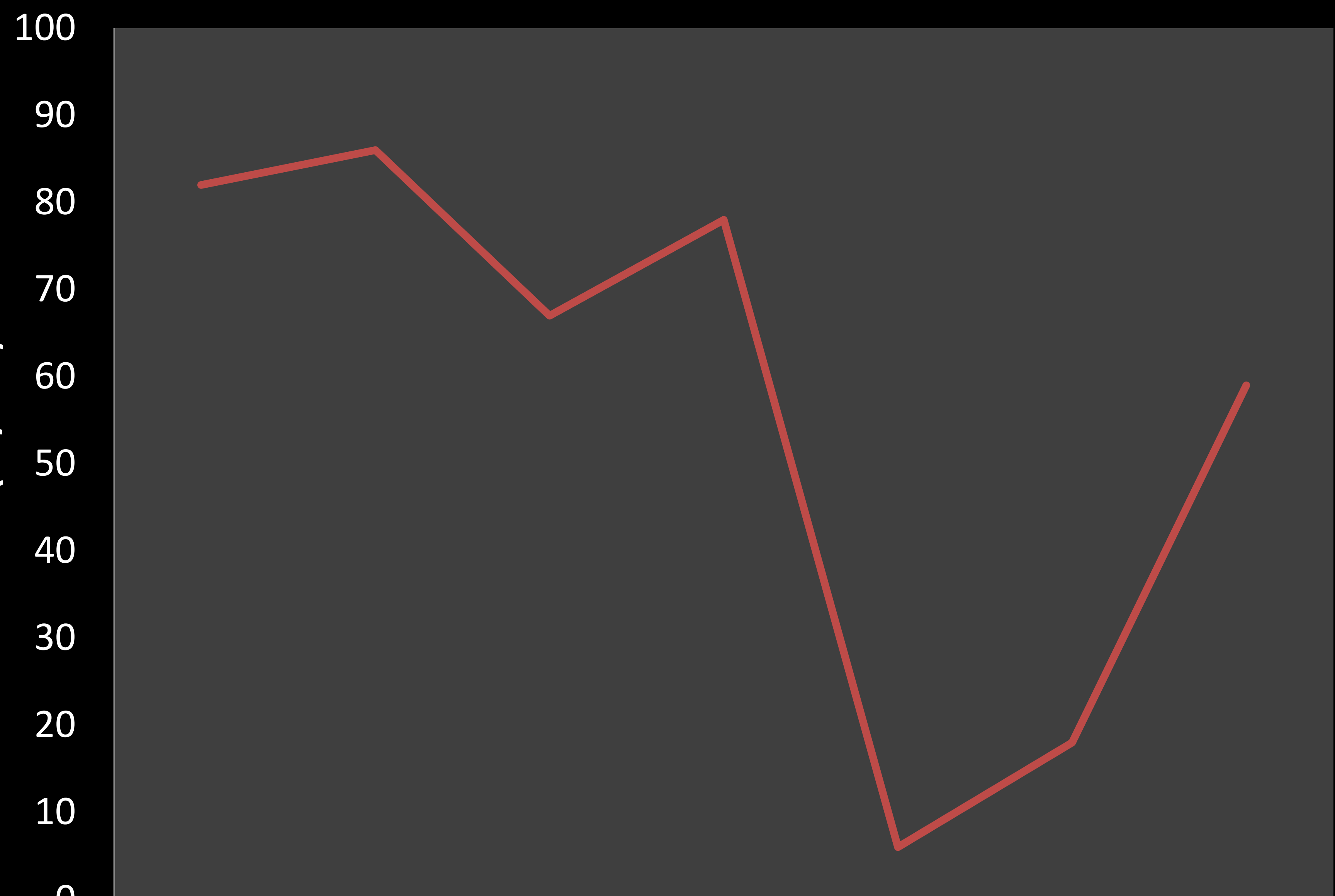
  Prednisolone 60mg OD

  Ranitidine 150mg BD

  Co-trimoxazole 480mg OD

  Adcal D3 TT OD

  Fluconazole 50mg OD
- Bisphosphonates avoided.
- Creatinine 310 umol/l, eGFR 18 ml/min on discharge.
- Continued to recover when seen in clinic.



eGFR (ml/min)
100
90
80
70
60
50
40
30
20
10
0
11/06/2018
20/06/2018
03/07/2018
20/07/2018
13/08/2018
03/09/2018
13/11/2018
eGFR
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86
67
78
6
18
59

Interstitial Nephritis - 1

- Inflammatory infiltrate in interstitium.
- Causes: Drugs (70-75%)
  Infectious (4-10%)
  Autoimmune conditions (Sarcoid, SLE) (10-20%)
  Tubulointerstitial nephritis and uveitis (TINU) (5-10%)

- Potential causes in this case:
  - Omeprazole
  - Piperacillin/Tazobactam
  - Co-trimoxazole
  - Alendronic Acid (delayed presentation)

Interstitial Nephritis - 2

- Classical triad: fever, rash, eosinophilia (only seen in around 10% of cases)

  Fever 27%

  Rash 15%

  Eosinophilia 23%

- Treatment – cessation of offending agent.
- Steroids in those who do not improve.
- 10% remain dialysis dependent. 40-50% may have persistently elevated creatinine.

Learning Points

- Consider acute interstitial nephritis (AIN) as a cause for AKI in patients who have recently started new medications.
- Biopsy is required for diagnosis, involve Renal team early.
- Cessation of the offending drug should lead to recovery, corticosteroids have been used with good results.
- Bisphosphonates can lead to a delayed presentation of AIN (weeks – months).

Questions?

Many thanks