SAPG June 2017

Giving infection advice to the non-specialist

Do we do it well?

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Giving infection advice - problems

- belief in the all-powerful actions of ‘strong’ antibiotics
- canvassing advice

Scenario

77 year old woman
Admitted from MAU with dx sepsis unknown cause
CRP 336
WCC 17 (neuts 15.8)
Creat 170

Commenced in MAU – Amox Gent and Mtz
Transferred to 207

24 hours later
Remains febrile
CRP now 380
WCC 19

How might a CMT1 in ward 207 obtain infection advice currently:

Phone microbiology duty room

Questions: a) Had blood and urine cultures sent in MAU – any growth?
b) Gent level was 5.4 but timing not documented – should they get another dose?
c) Should they escalate treatment at this stage?

Phone ID registrar on call

Questions: a) Patient has PUO – what investigation should be done next?
b) 7 months ago had 2 week trip to Southern Turkey – relevant?
c) Pet dog had diarrhoeal illness 2 weeks ago – could this be relevant?

Discuss with antimicrobial pharmacist on AMS round

Questions: a) Creat is above baseline – should they give another dose of gent?
b) Nauseated on oral metronidazole – can they give this IV?
c) Should they stop the PPI?

Discuss with duty IPC Nurse

Questions: a) Whilst in Turkey - attended GP for bite - does she need CPE screen?
b) Husband has MRSA - does she need MRSA screen?
c) 1 episode of loose stools - does she need isolated?

Giving infection advice - problems

- belief in the all-powerful actions of ‘strong’ antibiotics
- canvassing advice from lots of individual infection specialists
- communication through junior members of surgical team - important advice getting lost in translation
- desire to have something else to offer teams who are struggling
- lack of appropriate microbiological sampling, poor timing of sampling that is done
- never ending demand and limited resource

Infectious Diseases Specialty Intervention Is Associated With Decreased Mortality and Lower Healthcare Costs

Steven Schmitt,[1] Daniel P. McQuillen,[2] Ronald Nahass,[3] Lawrence Martinelli,[4] Michael Rubin,[5] Kay Schwebke,[6] Russell Petrak,[7] J. Trees Ritter,[8]

David Chansolme,[9] Thomas Slama,[10] Edward M. Drozd,[11] Shamonda F. Braithwaite,[11] Michael Johnsrud,[12] and Eric Hammelman[11]

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Table 4. Unadjusted and Risk-Adjusted Outcomes for Stays With and Without Infectious Diseases Interventions

	Unadjusted Outcomes			Risk-Adjusted Outcomes			
Outcome	No ID	ID	OR/%Δ (95% CI)	No ID	ID	*P* Value	OR/%Δ (95% CI)
Index stay length of stay	7.3	11.5	+56.1% (+54.9% to +57.3%)	9.5	9.6	.001	1.3% (+.5% to +2.1%)
Index stay ICU days[a]	5.2	7.9	+54.2% (+51.4% to +57.1%)	6.7	6.4	<.001	−3.7% (−5.5% to −1.9%)
Index stay mortality (%)	10.1	9.7	0.95 (.93 to .98)	10.7	9.8	<.001	0.87 (.83 to .91)
30-day mortality (%)[b]	8.0	8.1	1.02 (.99 to 1.05)	8.7	7.7	<.001	0.86 (.82 to .90)
30-day readmission rate (%)[b]	20.8	23.4	1.17 (1.15 to 1.19)	22.7	22.1	.009	0.96 (.93 to .99)
ACH charges for index stay	$46 974	$86 117	+83.3% (+81.3% to +85.4%)	$65 570	$66 811	<.001	+1.9% (+.9% to +2.8%)
Medicare payments to ACH for index stay	$12 699	$18 802	+48.1% (+46.5% to +50.0%)	$15 850	$15 799	.435	−0.3% (−1.1% to +.5%)
Medicare payments for index stay	$14 188	$21 837	+53.9% (+52.4% to +55.4%)	$18 017	$18 076	.397	+0.3% (−.4% to +1.1%)
Medicare payments for 30-day episode[b]	$6460	$8512	+31.8% (+29.8% to +33.7%)	$7706	$7858	.069	+2.0% (−.2% to +4.1%)

Abbreviations: ACH, acute care hospital; CI, confidence interval; ICU, intensive care unit; ID, infectious diseases; OR, odds ratio; %Δ, percent difference.

[a] Only patients with 1 or more ICU days.

[b] Excludes patients expiring in the hospital.

Table 5. Risk-Adjusted Outcomes for Stays Receiving Early Versus Late Infectious Diseases Interventions

Outcome	Early ID (within 2 d)	Late ID	*P* Value	OR/%Δ (95% CI)
Index stay length of stay	13.2	13.8	<.001	−3.8% (−4.8% to −2.9%)
Index stay ICU days[a]	7.6	8.1	<.001	−5.1% (−7.7% to −2.4%)
Index stay mortality (%)	7.1	7.5	.122	0.94 (.88 to 1.02)
30-day mortality (%)[b]	8.6	9.6	<.001	0.87 (.82 to .93)
30-day readmission rate (%)[b]	24.6	26.1	<.001	0.92 (.89 to .96)
ACH charges for index stay	$95 136	$98 015	<.001	−2.9% (−4.1% to −1.7%)
Medicare payments to ACH for index stay	$18 111	$18 728	<.001	−3.3% (−4.3% to −2.3%)
Medicare payments for index stay	$21 453	$22 207	<.001	−3.4% (−4.3% to −2.5%)
Medicare payments for 30-day episode[b]	$8739	$9318	<.001	−6.2% (−8.8% to −3.5%)

Abbreviations: ACH, acute care hospital; CI, confidence interval; ICU, intensive care unit; ID, infectious diseases; OR, odds ratio; %Δ, percent difference.

[a] Only patients with 1 or more ICU days.

[b] Excludes patients expiring in the hospital.

What can we do?

- weekly Infection MDT
- Attended by all infection consultants on all sites (video-conferencing), infection trainees, IPCT, radiology, visiting specialties
- complex cases discussed
- consensus decision made and delivered to team

Lead Infection team

Acute site 1

IPCT including site ICD

Liaison team

Acute site 2

IPCT including site ICD

Liaison team

Acute site 3

IPCT including site ICD

Liaison team

specialist team

specialist team

specialist team

In-Patient care

One phone number

Recorded message: Telephone advice is available from 0830-1600 for Infection Prevention and Control Nurse and 0900-1700 for Medical Team.
For Out of hours urgent advice please contact the duty microbiologist, virologist or Infectious Diseases Consultant *via switchboard*

Please be aware that
Infection Control policies, Antimicrobial prescribing
guidelines as well as treatment
protocols for many infectious
diseases are available on the intranet .

Links to these and *microbiology, virology and ref lab manuals can be found on* Infection Service homepage

Options Selection

1

To discuss interpretation of results received or outstanding tests – press 1

1

For Virology Duty Room choose 1

2

For Microbiology Duty Room choose 2

2

For infection control advice and
to speak to the duty nurse
press 2

IPCN Duty Nurse

3

To seek clinical advice
including infection treatment and further
Investigations press 3

Options Selection

This part will be site based

1

If you are calling from WGH and require medical advice on treatment or management advice for an individual patient press 1

2

If you are calling from RIE or Liberton, RHSC and Dept. of Clinical Neurosciences and require medical advice on treatment or management advice for an individual patient press 2

3

If you are calling from SJH and require medical advice on treatment or management advice for an individual patient press 3

Blastocyst

Totipotent
Morula

Oocyte

Sperm

Human Fetus

Pluripotent
Inner Mass Cells

New CIT

Examples:

Circulatory System

Nervous System

Immune System

ME

Unipotent