Healthcare-associated infections & antimicrobial use in long-term care facilities (HALT) 2016

Training Day: Lecture 4
Case Studies: 1 – 5
Student Version

Presentation Outline

- This session gives you a chance to practice completing the resident questionnaire
- To record a resident’s antimicrobial data
- To learn about the surveillance definitions of the most common HCAI types, based on the results of previous HALT surveys in Ireland

What were the most prevalent HCAI types in the Ireland HALT surveys?

- G. Gertrude, 93 year old female (born in 1923) has been living full time in the LTCF for over a year
- She is in her bed at 8am on the survey day (4th May)
- Her resident study number is A03
- She is generally well, with no hospital admissions since she has been in the LTCF
- She requires a wheelchair
- She has no urinary catheter/no vascular catheter/ no pressure sores / no wounds
- She is fully orientated and continent

Case Study 1 – G Gertrude

- Three days ago she complained of pain on urination. She was otherwise well and had no temperature
- On 1st May, her in-house GP started her on oral ciprofloxacin 250mg twice daily (BD) for five days
- Dipstick test on urine showed positive result for nitrates and leucocytes
- A mid-stream urine sample (MSU) was sent to laboratory for culture and sensitivities, three days previously
- On day of the survey (4th May), G. Gertrude is feeling much better. The MSU results showed >10^5 cfu/ml E. coli, which were reported as ESBL-positive, cefotaxime resistant and meropenem susceptible/sensitive

Does G Gertrude need a resident questionnaire?
What infection do you think G Gertrude might have?

- If you’re not sure – cast the net wide
- Record all of the signs and symptoms
- For chronic signs and symptoms – they need to be acutely worse
- USE THE HALT PROTOCOL
- If you think a resident might have signs or symptoms consistent with a urinary tract infection, check for a urinary catheter

Case Study 1: G Gertrude

Q: How would you complete the case definitions section of the resident questionnaire for G. Gertrude?

A: Establish if the resident has a urinary catheter or not; the signs and symptoms criteria differ for each
Check resident’s notes for information on mid-stream urine (MSU) or catheter sample urine (CSU) collection and check whether the laboratory report has come back yet and what was on it

Points to note

Q: If a resident is suspected of having a urinary tract infection, what steps should you take to determine whether it is present or not?
A: Establish if the resident has a urinary catheter or not; the signs and symptoms criteria differ for each
Check resident’s notes for information on mid-stream urine (MSU) or catheter sample urine (CSU) collection and check whether the laboratory report has come back yet and what was on it

How do I complete the section on ‘isolated microorganisms’?

- This section is only completed when a resident meets criteria for INFECTION CONFIRMATION
- Go to the HALT protocol and follow the instructions on pages 60 to 68
- Your starting point is Algorithm 1 on page 60

Algorithm 1 – HALT protocol page 60
What microorganism was named on G Gertrude’s urine report?

Algorithm 2: When microbiology laboratory report names microorganisms

Algorithm 5a: Enterobacteriaceae

Algorithm 5b: Enterobacteriaceae
Case Study 1: G Gertrude
If INFECTION CONFIRMED,
Don’t forget to go back and finish Part B

Case Study 2: R Romeo

- R. Romeo, a 79 year old male (born in 1937) has been a full-time resident in the LTCF for two years
- He is present at 8am on the survey day
- His resident study number is A04
- He has general poor health, disorientated, bedridden, and incontinent (urinary)
- He has no urinary catheter/no vascular catheter/ no pressure sores / no wounds
- He was admitted to hospital electively 30 days ago for prostatectomy

Case Study 2: R Romeo

- On day of the survey (8th May), his medical notes indicate that he had passed blood in his urine in the last 24 hours and his temperature is 37.9°C
- On 7th May, the LTCF medical officer prescribed oral trimethoprim 200mg twice daily (BD) for seven days
- Laboratory results on the mid-stream urine (MSU) sample were not available on 8th May

Case Study 2 – R Romeo

- Does R Romeo need a resident questionnaire?

What infection do you think R Romeo might have?

- If you’re not sure – cast the net wide
- Record all of the signs and symptoms
- For chronic signs and symptoms – they need to be acutely worse
- USE THE HALT PROTOCOL
- If you think a resident might have signs or symptoms consistent with a urinary tract infection, check for a urinary catheter

Q: How would you complete the case definitions section of the resident questionnaire for R Romeo?
How do I complete the section on ‘isolated microorganisms’?

- This section is only completed when a resident meets criteria for INFECTION CONFIRMATION
- Go to the HALT protocol and follow the instructions on pages 60 to 68
- Your starting point is Algorithm 1 on page 60

Case Study 2: R Romeo

IF INFECTION CONFIRMATION –
Don’t forget to go back and finish Part B on Page 2

Case Study 3: P Polonius

- P. Polonius is a 92 year-old male (born in 1924), who has been living in the LTCF for past three years
- He is bedridden but continent
- He was admitted to hospital two weeks previously for a cholecystectomy, from which he has recovered well and he returned to your LTCF yesterday (7th May)
- He has no history of heart or breathing problems
- He has a urinary catheter
- His surgical wound is healing well
- He does not have a vascular catheter or pressure sores and is fully orientated
Case Study 3: P Polonius

- On the day of the survey (8th May), P. Polonius is in the LTCF at 8am and his resident study number is A10
- He has cough that was not present the day before and an $O_2$ saturation of 92%
- His temperature on the day is 38.3°C
- He is not on any antimicrobials – the GP is due to review him later that day and he has not yet produced any sputum to send to the laboratory for culture

Q: How would you complete the case definition of infection section of the resident questionnaire for P Polonius?

A: Cast the net wide and record all signs and symptoms
Chronic signs and symptoms must be acutely worse
USE THE HALT PROTOCOL
If you suspect a resident has a lower respiratory tract infection, check whether a chest x-ray has been done, around the time the symptoms started and what was on the report.

Case Study 3 – P Polonius

- Does P Polonius need a resident questionnaire?

Resident Questionnaire
Respiratory Tract Infection Sections
See HALT Protocol Section 2.3.3.11 & 2.3.3.12 (Page 44) & 2.3.3.13 (Page 45)

If INFECTION CONFIRMATION – Don’t forget to go back and finish Part B on Page 2.
Constitutional signs and symptoms

1. Fever
2. Leucocytosis
3. Acute change in mental status from baseline
4. Acute functional decline

- See HALT protocol and resident questionnaire page 3 for definitions
- Definitions must be strictly adhered to

These definitions found on resident questionnaire Page 3 must be used for HALT 2016

Case Study 4: H Horatio

- H. Horatio is a 59 year old male (born in 1957), who has been living in the LTCF for the last 25 days
- His resident study number is A08
- He was transferred to the LTCF from an acute hospital following surgery as a result of a road traffic accident
- Due to a spinal injury he currently requires a wheelchair and has a suprapubic catheter
- He underwent surgery two months previously and his surgical wound is fully healed and he has a pressure sore at the base of his spine

Case Study 4 – H Horatio

- Does H Horatio need a resident questionnaire?

Point to note

Q: For the purposes of the HALT survey, is a suprapubic catheter the same as a urinary catheter?
A: Yes. According to the HALT protocol, a urinary catheter is defined as "any tube system placed in the body to drain and collect urine from the bladder (e.g. indwelling urethral catheter, suprapubic catheter)
A condom catheter is not a urinary catheter – it is not placed in the body
Point to note

A suprapubic catheter insertion site is also classified as an “other wound” as per HALT protocol. The definition of “other wounds” is:
• All wounds, other than a pressure sore
• This includes: leg ulcers, traumatic or surgical wounds, insertion sites for percutaneous endoscopic gastrostomy (PEG tubes), tracheostomy, urostomy, colostomy or suprapubic and peritoneal catheters

Case Study 4 - H Horatio

Q: How would you complete the signs and symptoms of infection section of the resident questionnaire for H Horatio?
A: Cast the net wide and record all signs and symptoms
Chronic signs and symptoms must be acutely worse
USE THE HALT PROTOCOL

Case Study 4: H Horatio

If INFECTION CONFIRMATION –
Don’t forget to go back and finish Part B on Page 2

Influenza

• LTCF residents are especially vulnerable to influenza infection:
  – Older age
  – Chronic underlying illnesses
  – Living in close proximity to each other
• Influenza is a major cause of death in vulnerable residents and patients
• Influenza outbreaks in LTCF are common in Ireland

• Annual seasonal influenza vaccine is recommended for residents of LTCF AND for healthcare workers
• 2014/15 season: Just 25% of LTCF staff took the opportunity to receive influenza vaccine!
• The vaccine is not 100% effective and its effect may be even less in elderly or immunocompromised residents
• Healthcare workers are much more likely to have a better protective response to vaccination

Influenza

• Where influenza outbreaks have occurred in LTCF settings – consistently, uptake of vaccine by healthcare workers has been poor
• Annual vaccination protects you, your residents and your family
• Remember that up to one-third of influenza infections may be asymptomatic – you could unknowingly have influenza and transmit it to others – vaccination is your only protection
Case Study 5: M Macbeth

- M. Macbeth is an 83 year-old male (born in 1943), who has been living in the LTCF for the last two years
- He uses a wheelchair and requires oxygen at night for emphysema, for which he also regularly uses an albuterol inhaler
- He has returned to the LTCF at lunchtime on May 8th, following a week-long home visit with family
- During this visit he had a suspected respiratory tract infection and the local GP prescribed po amoxicillin four days ago

Case Study 5: M Macbeth

- On the day of the survey (May 8th) he has:
  - No pressure sores or wounds
  - No vascular or urinary catheters and is fully continent
  - Had no recent admissions to hospital
  - A normal temperature, is fully orientated and on his last day of antimicrobial treatment

Point to note

Q: If M Macbeth had come back from holidays last night (7th May) prior to the survey day, would he be an eligible resident?

Well done!
Thank you for your attention

Any questions?

Don’t forget to contact us if you need help during HALT
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