

X. Fever

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Specific learning objectives

Knowledge.

Subinterns should be able to:

- a. Discuss the physiology of the febrile response
- b. Discuss the beneficial and deleterious effects of fever upon the host
- c. Describe and discuss the indications for use of antipyretics and their mechanism of action
- d. Discuss the most common causes of acute fever in adults.
- e. Discuss the most common causes of new fever in hospitalized patients
- f. Differentiate acute fever from a fever of unknown origin.
- g. Assess the severity of the presentation based on the history, exam, laboratory results and host factors.
- h. Recognize presentations that require immediate input from the resident.
- i. Recognize presentations that require a higher level of care.

Skills.

Subinterns should demonstrate the ability to:

- a. Conduct an appropriate history and physical exam. .
- b. Develop a differential diagnosis based on the HPI and the exam.
- c. Develop an evaluation plan ordering and interpreting appropriate laboratory and radiology studies.
- d. Develop a management plan, using the above information, to provide initial and follow up care.
- e. Communicate information about the patient with appropriate team members and request consultations as necessary

Attitudes and professional behavior:

Subinterns should demonstrate:

- a. Respect for the patients' privacy and confidential issues
- b. Compassion for and treatment of discomfort .
- c. Discussion of results with the patient or designated others.

Case: Fever in a Hospitalized Patient

You are on call on the medical ward. You are just getting to sleep when the nurse calls you to come see Mrs. S who has a fever of 39.

1) Question: What additional information do you want from the nurse now?

Information regarding her stability including vital signs, prior fevers and admitting diagnosis.

Associated symptoms to help you localize the problem.

Rigors

Cough

Pain

Nausea, vomiting or diarrhea

You now know that she is a 66 year old woman with diabetes. She was admitted five days ago with LLE cellulitis and has been on IV cefazolin. The fever is new. Her heart rate is 100 and BP 140/77. She was having chills.

2) What telephone orders would you give to the nurse?

CBC with differential, blood cultures, UA.

3) Would you give her antipyretics? Why?

Yes, Tylenol to lower her temperature and improve patient comfort.. She is an elderly woman with probable CAD and tachycardia

4) What infectious causes of fever will you be thinking about?

Differential diagnosis for infectious causes of an acute fever in a hospitalized patient includes:

Urinary tract infection,

Bacteremia due to a UTI or infected IV catheter:

Local cellulitis due to the IV catheter

Nosocomial pneumonia

Clostridium difficile infection

Wound infections

5) What are the most likely non-infectious causes ?

Non-infectious causes include drug fever, PE and deep vein thromboses.

6) What questions will you want to ask at the bedside?

Does she have dysuria?

Is there pain at the IV site?

Does she have chest pain with or without pleurisy? Cough? SOB?

Does she have different or worse pain in her LE?

Does she have generalized itching or a rash?

Has she had diarrhea?

Fever

Teacher Guide

She does not feel like talking, but reports nouriary symptoms. She has no chest pain and is not coughing “more than usual”. She is a little SOB. She denies having a rash. She has had some diarrhea. She tells you to look at her IV if you think there may be a problem.

7) What parts of the physical exam will you focus on ?

Her general appearance, level of distress.

Repeat vital signs

Skin, lung, heart and LE exam

IV sites, surgical incisions, presence of urinary catheter

Exam: She does not look toxic, but appears uncomfortable. Her repeat vital signs are T 38.8, B/P 144/90, HR of 90 and RR of 16. Her O₂ saturation is 90%. Her skin exam is normal. Her heart exam is notable for a 2/6 systolic murmur at the apex. Lung exam reveals bibasilar crackles. Her abdomen is soft with normal bowel sounds but she complains of mild diffuse pain during the exam. Her IV site is red without surrounding cellulitis and is functioning. Her lower extremity exam is notable for bilateral edema which is greater on the left side. She has erythema and warmth on the left and the lower leg is tender to exam. Her pedal pulses are normal. She has a foley catheter and the urine looks a little cloudy in the drainage bag.

8) What are you most worried about missing acutely?

Bacteremia, from any cause.

Pneumonia.

Less likely, pulmonary embolism

9) How will you proceed? What initial lab studies will you order?

UA and urine culture with gram stain in a patient with a foley.

Blood cultures and a CBC with differential in a patient with high fever.

Electrolytes, glucose and BUN/creatinine. Diabetic patient

Change the peripheral IV line and culture the tip.

Consider CXR

Mrs. S. has long standing diabetes with poor control, moderate obstructive lung disease and CHF due to diastolic dysfunction. She was hospitalized four months ago with a CHF exacerbation and developed a bacteremia with Staph aureus which was treated for two weeks. It is not noted which antibiotic was used.

10) How will you proceed now?