

# Neutrophilia

## About neutrophilia

- The most common cause is a bacterial infection. Neutrophils show characteristic changes in response to infection. Left shift describes when immature neutrophils are released from the bone marrow due to an outpouring of cells, typically due to infection.
- In any acute inflammation, an increase in neutrophils is often seen. Increases may be seen after a heart attack (or other infarct) and necrosis.
- Heavy exercise, smoking, anxiety, and other stressors can elevate the neutrophil count.

## Assessment

Look for the most common causes:

1. Infection or inflammation
2. Necrosis
3. Any stressor or heavy exercise
4. Drugs e.g., steroids, lithium, clozapine, adrenalin
5. Pregnancy - a slight increase in total neutrophil count can be seen
6. Smoking
7. Occasionally neutrophilia may be a manifestation of a myeloproliferative neoplasm such as chronic myeloid leukaemia (CML):
  - Persistent elevation of neutrophils may be a sign of chronic myeloid leukaemia (CML).
  - Characteristic changes are a moderate increase in neutrophil count (usually  $> 50 \times 10^9/l$ ), with a left shift and a prominence of myelocytes. Basophilia and/or eosinophilia may also be present.
  - CML occurs in all age groups but most commonly in the middle aged and elderly.

Look for significant signs and symptoms:

1. Patient is particularly unwell
2. Severity of neutrophilia
3. Rate of change of neutrophilia
4. Presence of left shift
5. Abnormalities on the blood film
6. Splenomegally

## **Management**

1. Management is directed at treatment of the underlying cause which in most cases is not haematological.
2. If there are any significant signs and symptoms, consider discussion with a haematologist or arrange acute medical admission if unwell.
3. For essentially well people:
  - Repeat in 1 to 2 months.
  - Continue to follow up 3 monthly for 12 months, then occasionally thereafter.
  - Stop monitoring when normal.

## **Request**

Request haematology assessment if suspicion of myeloproliferative neoplasm e.g:

- progressive rise in neutrophils and other blood cells
- abnormal blood film
- splenomegaly