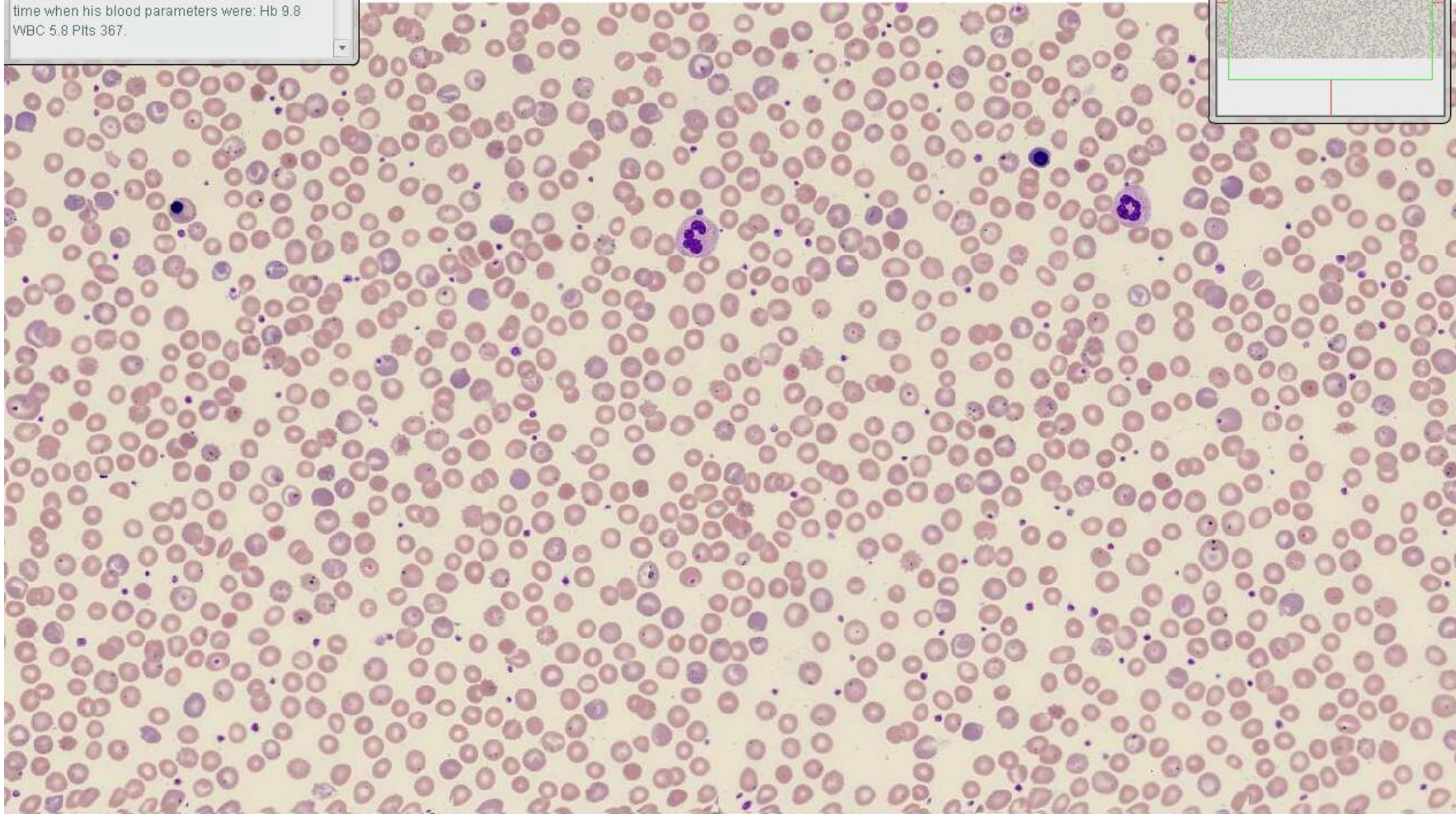


**Annotation List**

Narrative Annotations

This blood film was taken from a young male who had been transfusion dependent since childhood, although receiving transfusions only each 8 weeks. This pre-transfusion film was taken at a time when his blood parameters were: Hb 9.8 WBC 5.8 Pits 367.

**Slide overview**



Navigation and zoom controls including directional arrows, a zoom slider, and a status box showing X:0 Y:0 and Mag:5x.

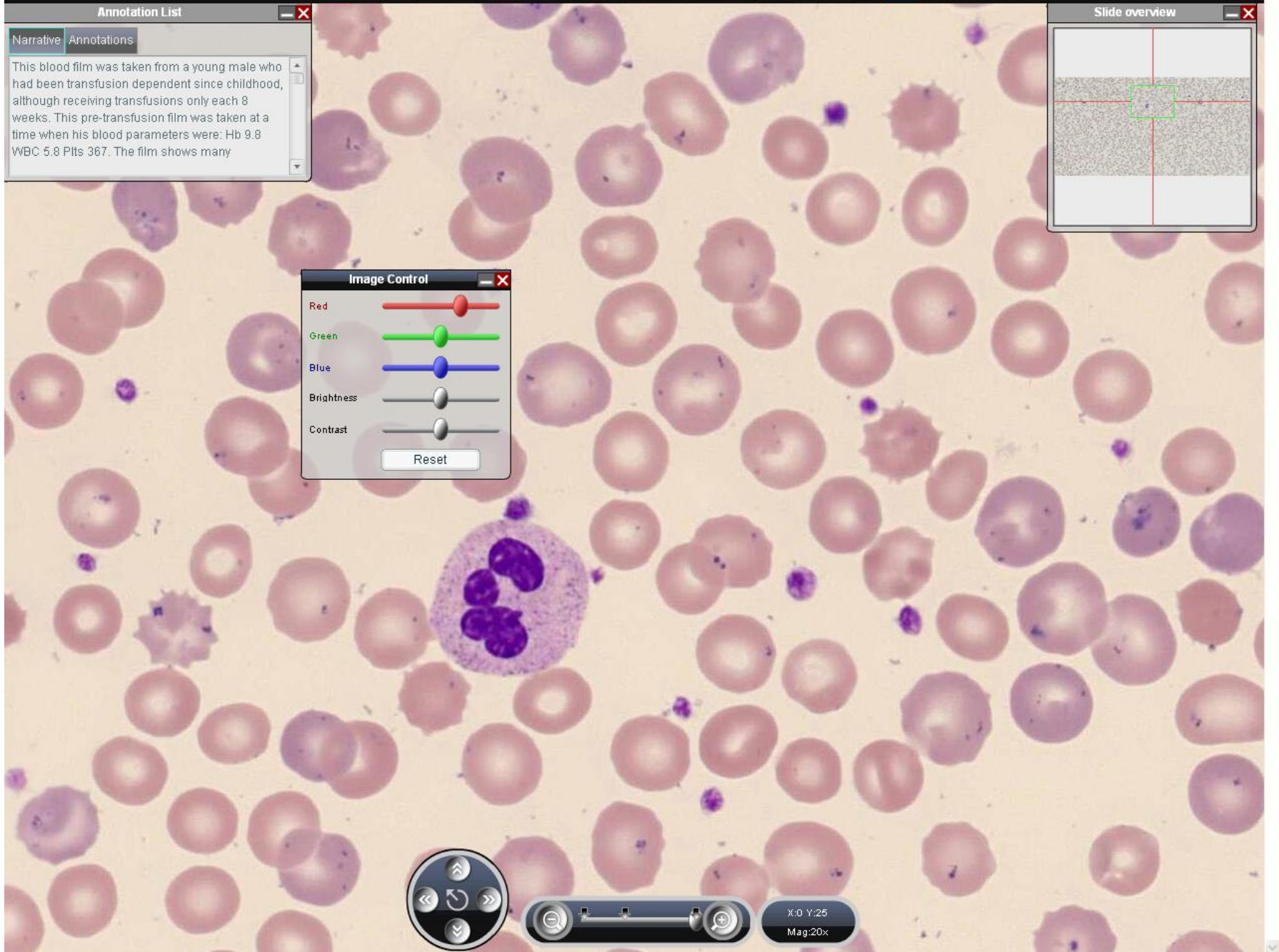
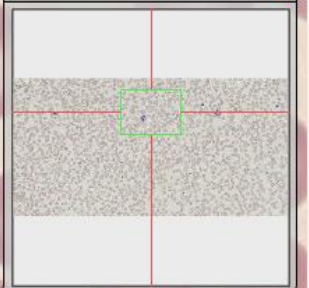


### Annotation List

Narrative Annotations

This blood film was taken from a young male who had been transfusion dependent since childhood, although receiving transfusions only each 8 weeks. This pre-transfusion film was taken at a time when his blood parameters were: Hb 9.8 WBC 5.8 Plts 367. The film shows many

### Slide overview



### Image Control

Red

Green

Blue

Brightness

Contrast

Reset



X:0 Y:25  
Mag:20x



Select Slide

View Options

Hide CPD Submission Form



### Case Information

For this film we have not provided any blood film was prepared from a sample sent Emergency Department marked: skin rash, palpable spleen. ?leukaemia or lymphoma.

### CPD Submission Form

You may submit as many observations as you wish at this stage; on later screens you will be asked to select and rank those five observations you consider most significant

Blood cell type

- Erythrocytes
- Leukocytes

#### Abnormal Circulating forms

- Lymphoid
- Myeloid

#### Altered maturation (left or right shift) of circulating cells

#### Abnormal numbers of circulating cells

##### Overall

##### Lymphoid

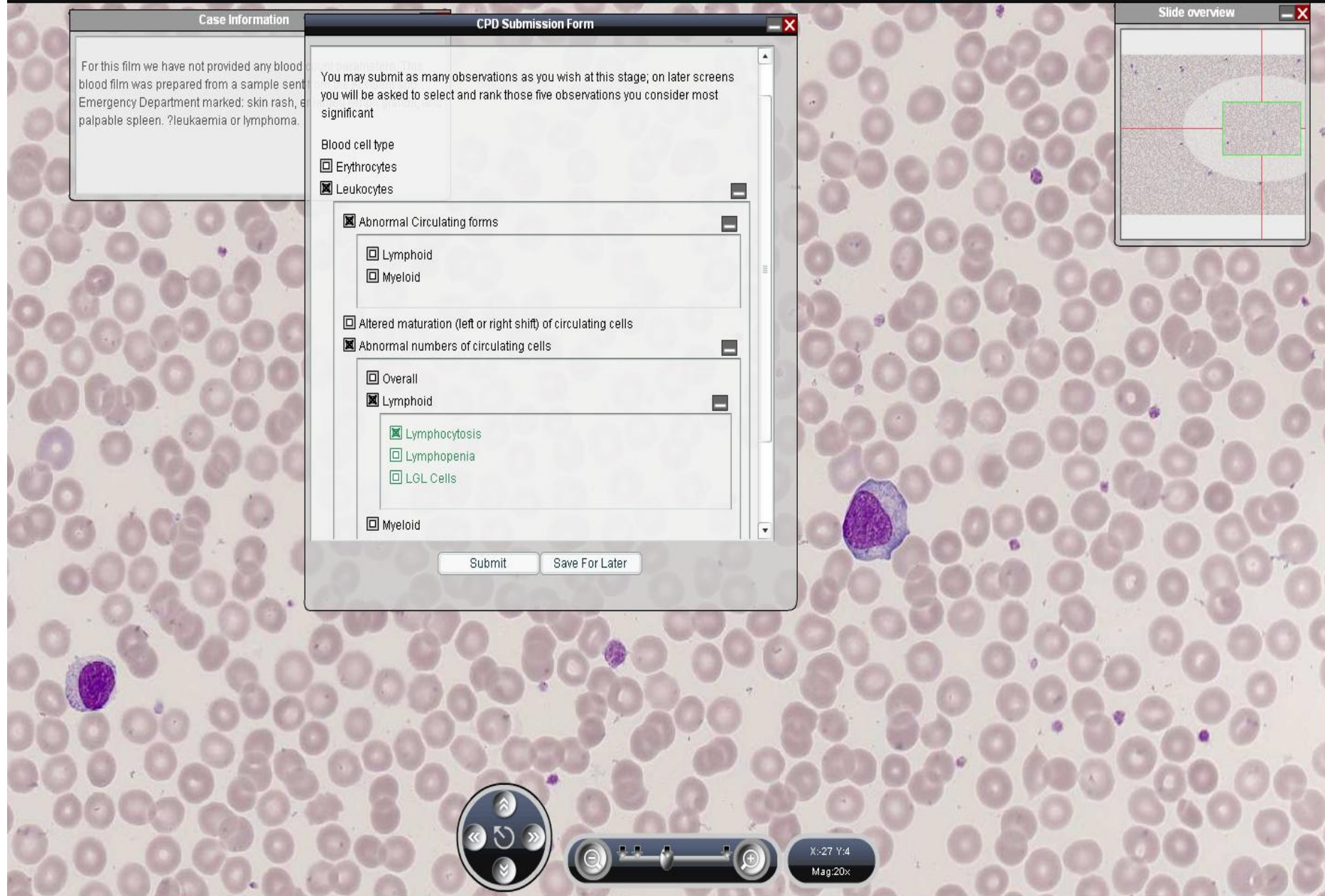
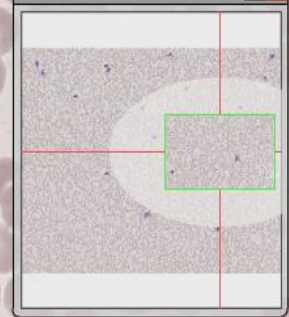
- Lymphocytosis
- Lymphopenia
- LGL Cells

##### Myeloid

Submit

Save For Later

### Slide overview



X:-27 Y:4  
Mag:20x



## Review your CPD Submission

Please rank up to 5 of your top observations before completing your CPD Assessment. You can do this by entering 1,2,3,4,5 into the text boxes provided beside your observations:

The observations that you have selected are:

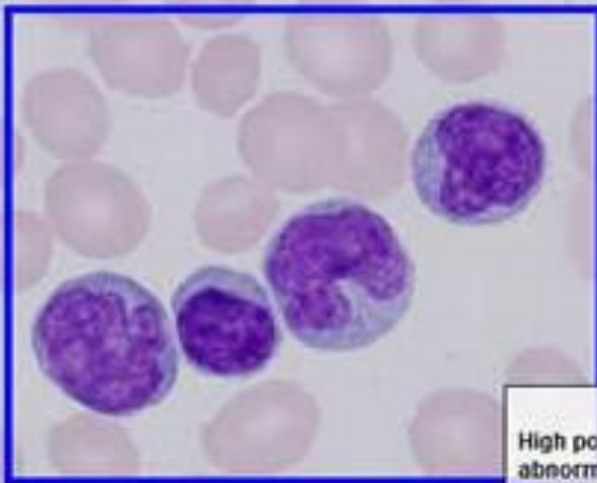
Target cells	<input type="text" value="4"/>
Stomatocytes	<input type="text"/>
Polychromatic cells	<input type="text" value="3"/>
Nucleated RBCs	<input type="text" value="1"/>
Acanthocytes	<input type="text" value="5"/>
Echinocytes/Crenated cells	<input type="text" value="2"/>

Assuming that this is a new case to your hospital, and clinical details do not suggest a diagnosis, please suggest the action you would take:

- Refer to medics (urgent)
- Refer to medics (routine)
- Send out report
- 4
- 5

Based on your morphological observations suggest a diagnosis (e.g. sickle cell category (e.g. haemoglobinopathy):

- Immediate access to annotated case.
- Email notification when statistics and consensus opinion available.
- Certificate with reflective notes.

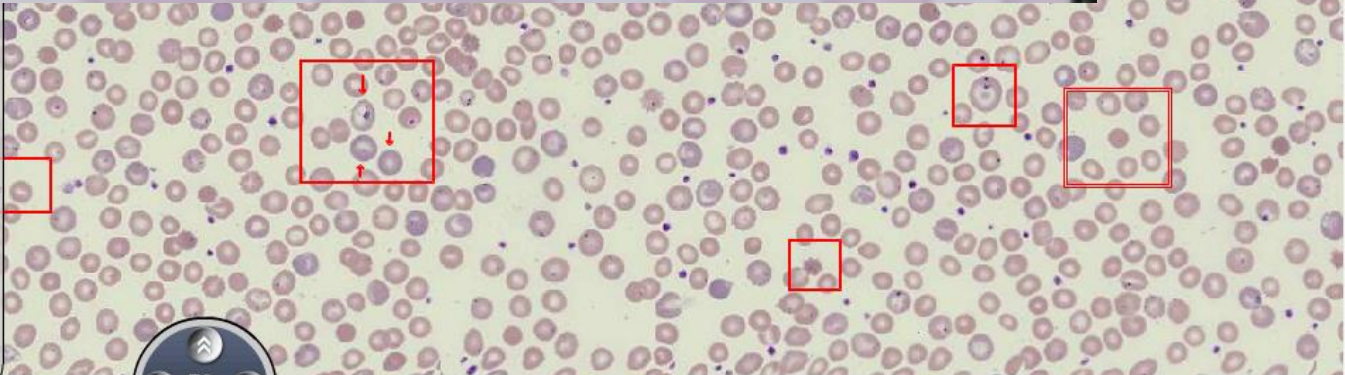


**High power examination shows even larger cells resemble the abnormal lymphocytes**  
 The larger cells in this film have nuclei that are spread and can superficially resemble monocytes. Closer examination however shows that they simply form part of the spectrum of abnormal cells present on the film.

X:16 Y:-16  
 Mag:38x

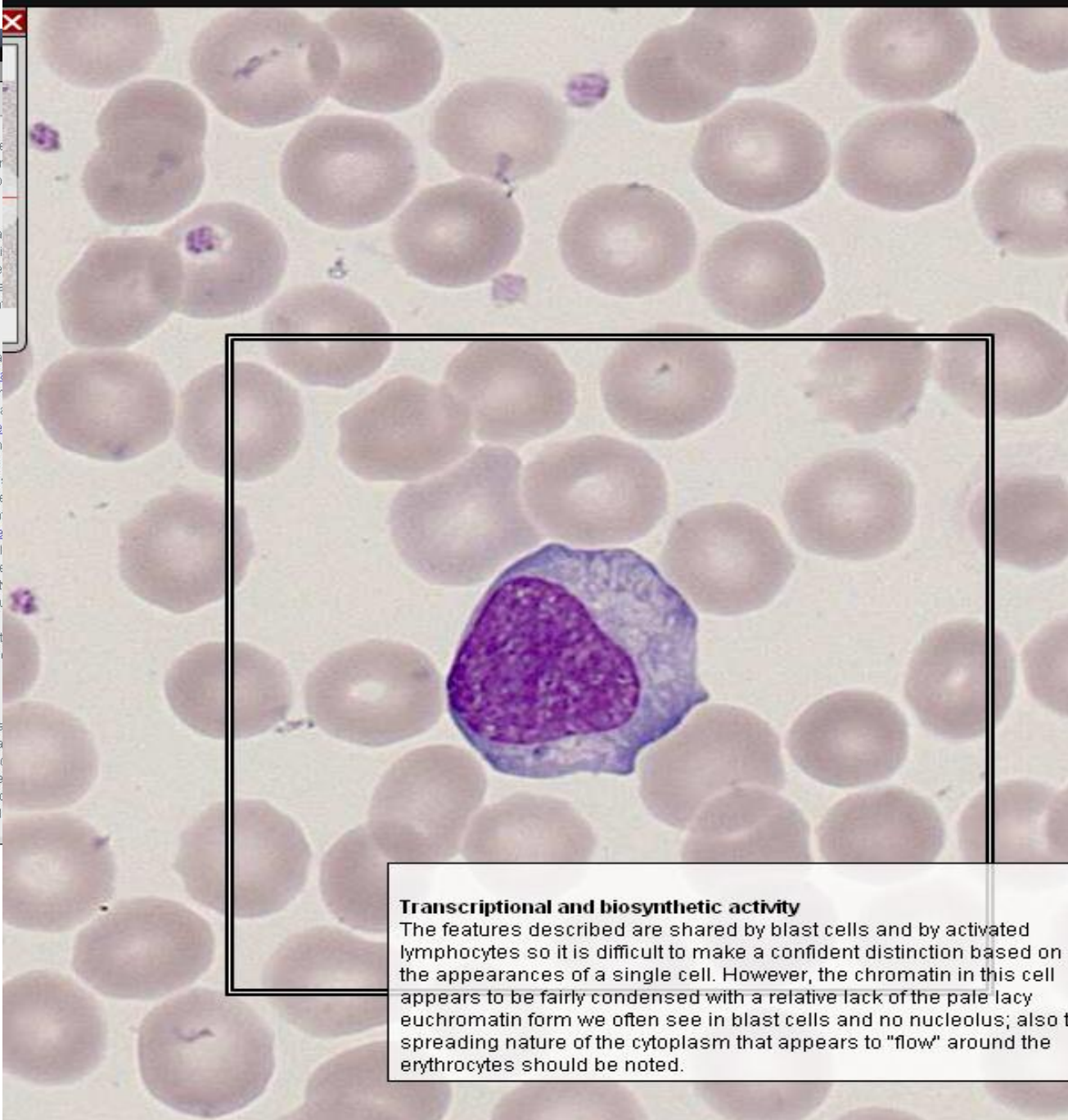
Windows taskbar and application windows including NMS, Settings, and Slide overview.

this film is the added features present within erythrocytes. Some artefact is present in the form of [stain debris](#), and [platelets overlying erythrocytes](#), however it is clear that there are [additional added staining elements within many erythrocytes](#). These certainly include some typical [Howell Jolly Bodies](#), and some peripherally located small inclusions very suggestive of [Pappenheimer Bodies](#), but for the most part these purple staining inclusions are more coarse, and while very atypical could also resemble [basophilic stippling](#). Essentially, the appearance of the inclusions are too atypical to allow them to be clearly labelled,



Navigation controls including a directional pad and zoom controls. X:0 Y:0 Mag:4x





**synthetic activity**  
are shared by blast cells and by activated lymphocytes. However, the chromatin in this cell appears condensed with a relative lack of the pale lacy euchromatin form we often see in blast cells and no nucleolus; also the spreading nature of the cytoplasm that appears to "flow" around the erythrocytes should be noted.

**Transcriptional and biosynthetic activity**  
The features described are shared by blast cells and by activated lymphocytes so it is difficult to make a confident distinction based on the appearances of a single cell. However, the chromatin in this cell appears to be fairly condensed with a relative lack of the pale lacy euchromatin form we often see in blast cells and no nucleolus; also the spreading nature of the cytoplasm that appears to "flow" around the erythrocytes should be noted.

**Case Narrative**

**Narrative** Annotations

**Clinical details**

This blood film was prepared from a blood sample from a patient in the Accident and Emergency Department marked: skin lymph glands, and palpable spleen. ?leukaemia or lymphoma

**General**

Clinical details can be helpful, but should not always be relied upon too much. In this age group both leukaemia and lymphoma may occur, but viral illness and other reactive states are also common. In this case it is clear that there are large numbers of atypical cells present on the film and that require full assessment.

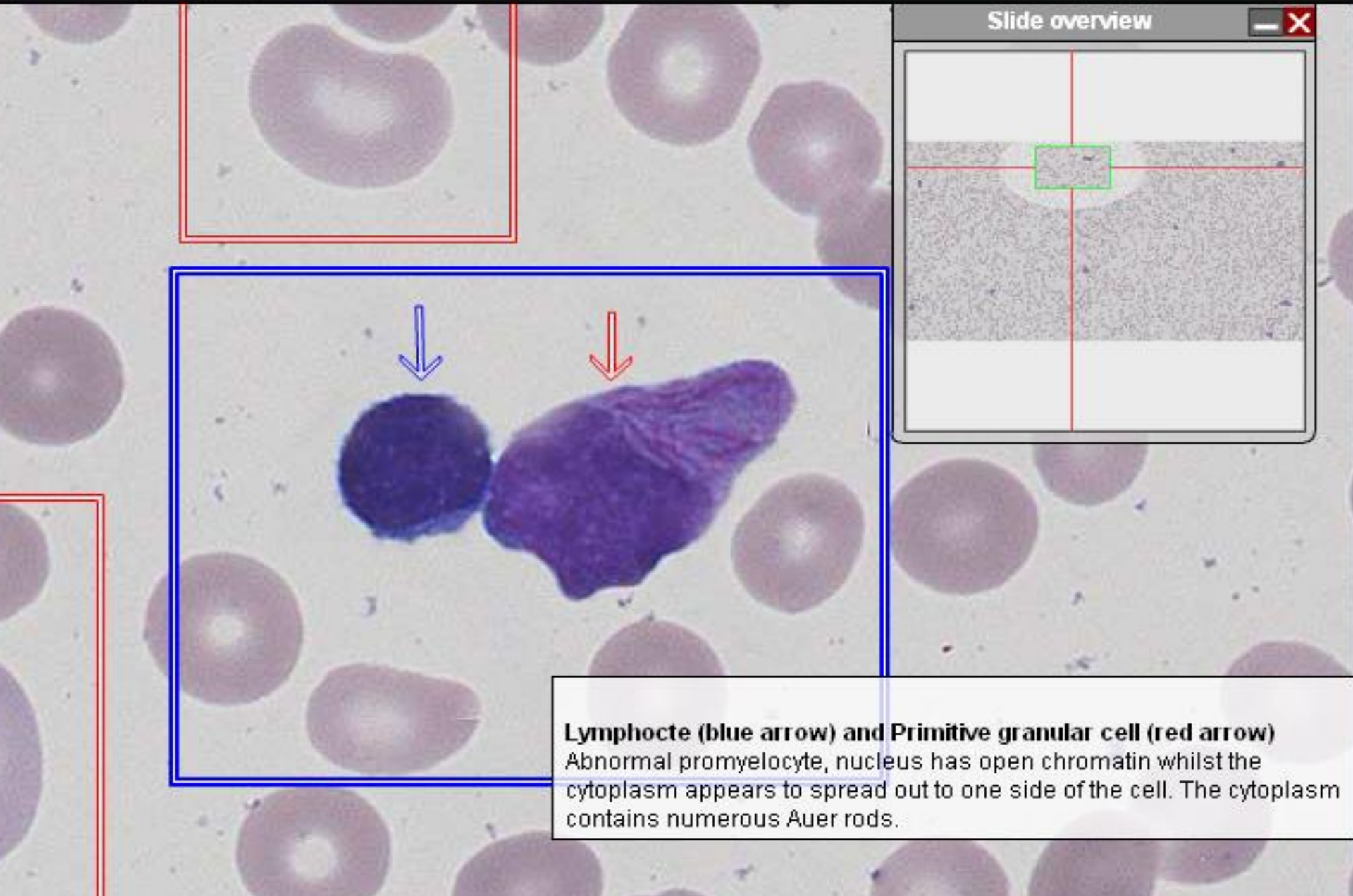
**Assessment normal cells**

The erythrocytes of this blood film show some variability in size and shape but do not appear macrocytic or microcytic (see the normal range - arrowed) and have no major abnormalities. Some variability is normal, and this can be exaggerated in reactive states without implying intrinsic marrow abnormality (see comment). Although this digital image is small, important findings are the normal numbers of polychromatic erythrocytes, the presence of nucleated red cells or tear drop erythrocyte forms, the normal number of platelets. Although no count was provided, the number of platelets appears clearly normal, and although variability is considerable, this level of variability is normal (see comment) and there are no very large or abnormal platelets. There is one monocyte, and several neutrophils present. The neutrophils have varying features, but none are dysplastic and features not associated with reactive states; (see these in sequence).

Overall the absence of abnormal features among the normal cells on this slide is reassuring (although not proof) that the marrow is not infiltrated by leukaemia or other neoplasm.

**The abnormal cell population**

The large cells on this field show characteristic features that raise the question on a film such as this is: Are the cells reactive or neoplastic? To a large extent the approach to this question is an assessment of the overall characteristics of the population (as discussed are relatively reassuring), the characteristics of the abnormal cells, and any other clues from other cell populations.



**Lymphocyte (blue arrow) and Primitive granular cell (red arrow)**  
Abnormal promyelocyte, nucleus has open chromatin whilst the cytoplasm appears to spread out to one side of the cell. The cytoplasm contains numerous Auer rods.