



Catarrhal Inflammation

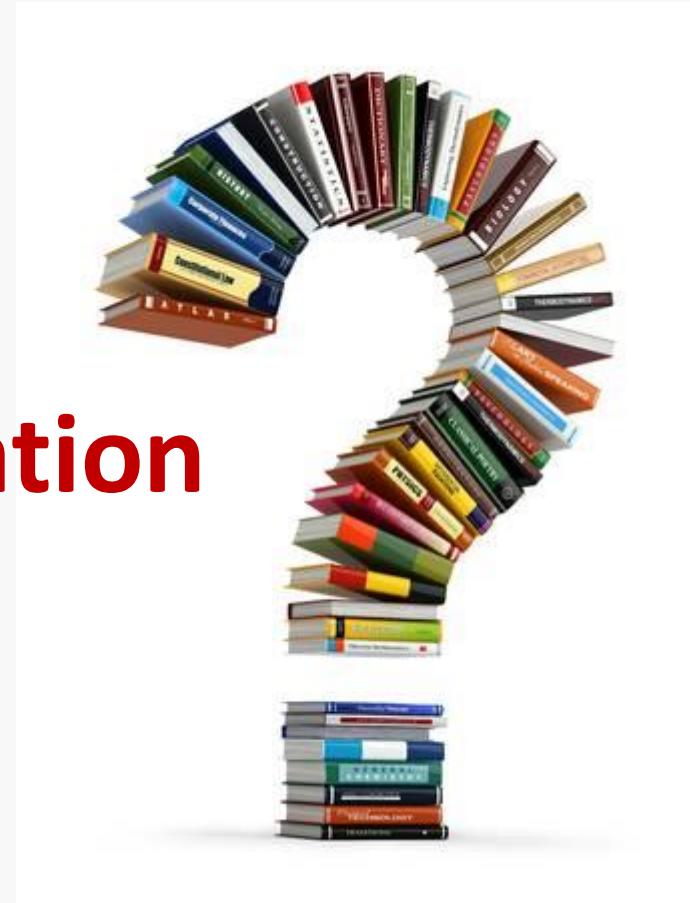
By
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- Definition
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- Pathogenesis
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What is Catarrhal Inflammation



Catarrhal Inflammation

Definition:

It is a type of acute exudative non supportive inflammation occurring exclusively on the mucous membranes.

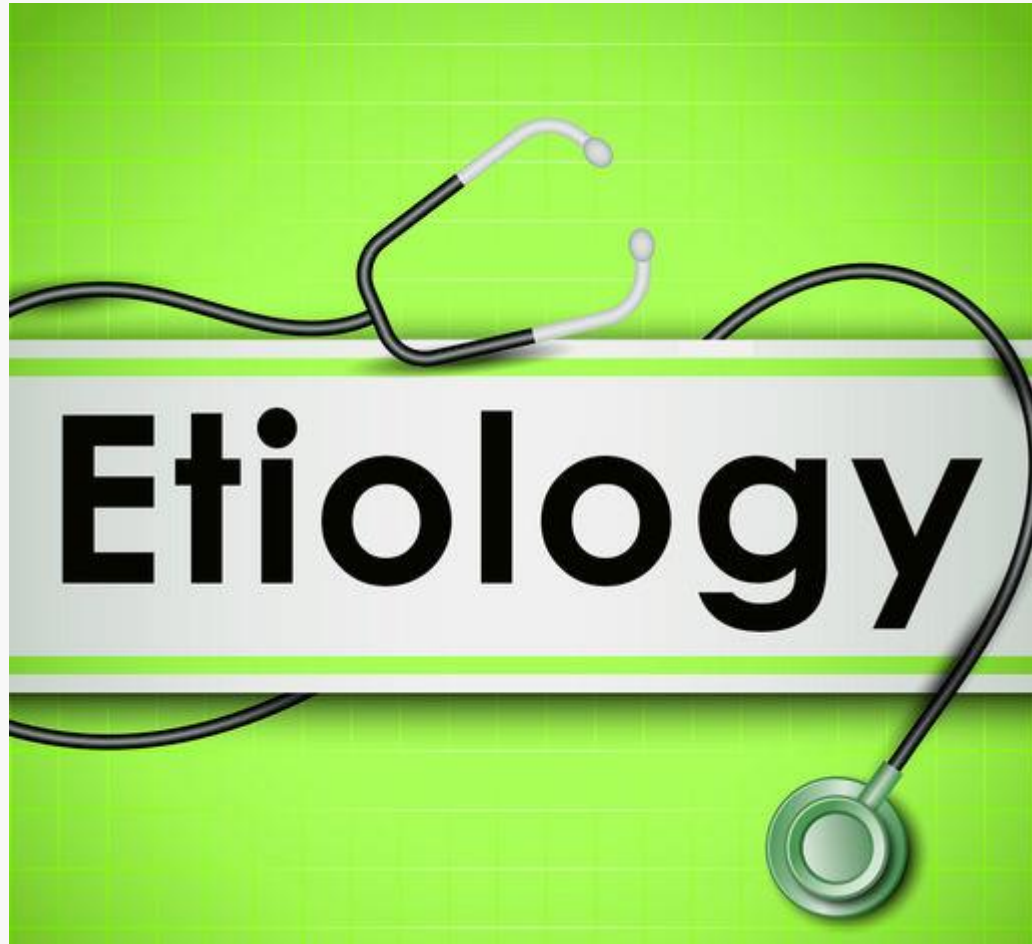
This type of inflammation:

- is usually seen in the acute stage of inflammation in organs that have abundant goblet (mucus producing) cells, such as the respiratory tract and gastrointestinal tracts
- Characterized by profuse discharge of mucus and epithelial debris.

What is its

Etiology

?



Etiologic factors

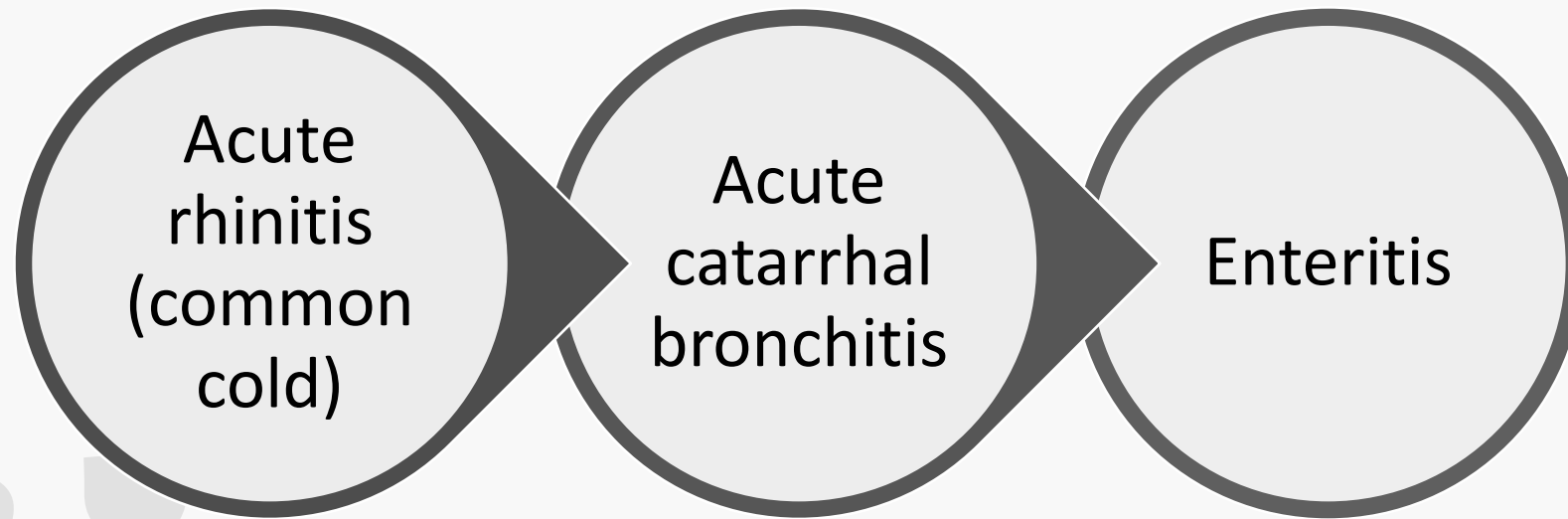
Hypersensitivity reactions

Bacterial and viral tissue injury

Physical and chemical tissue injury

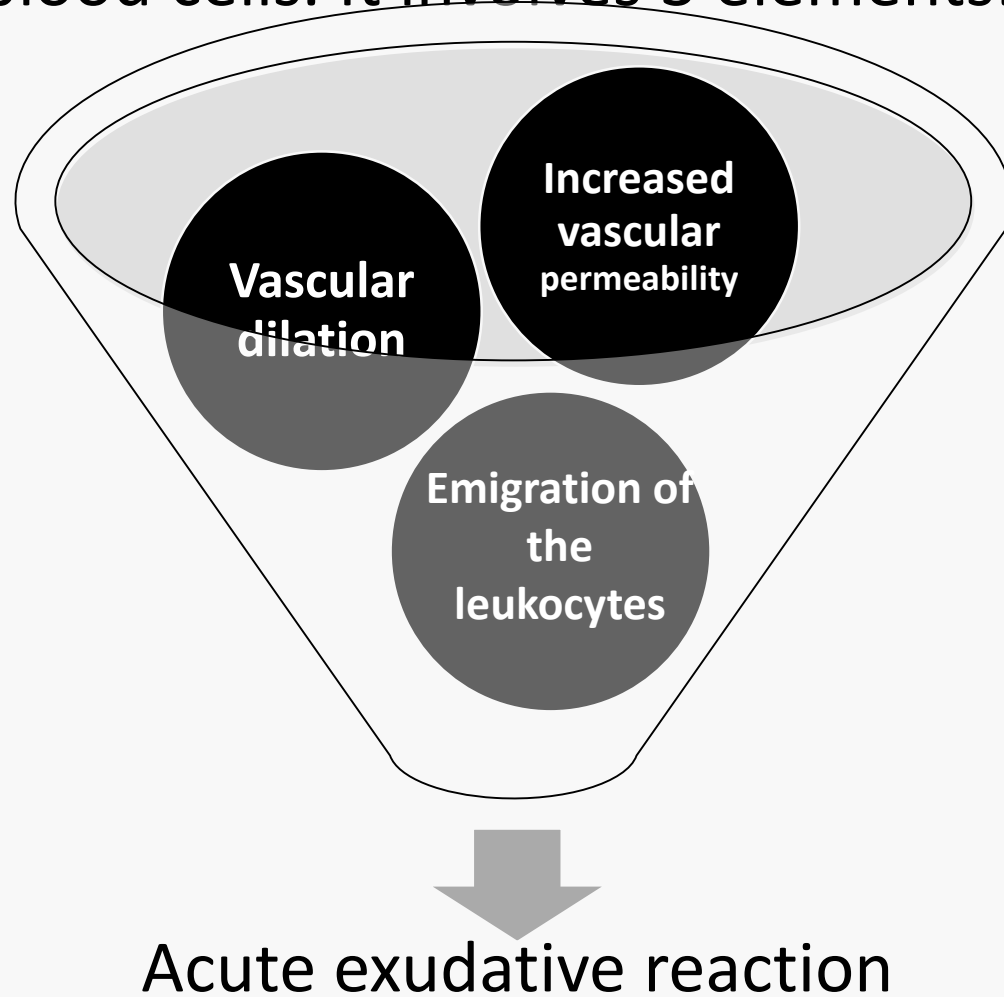


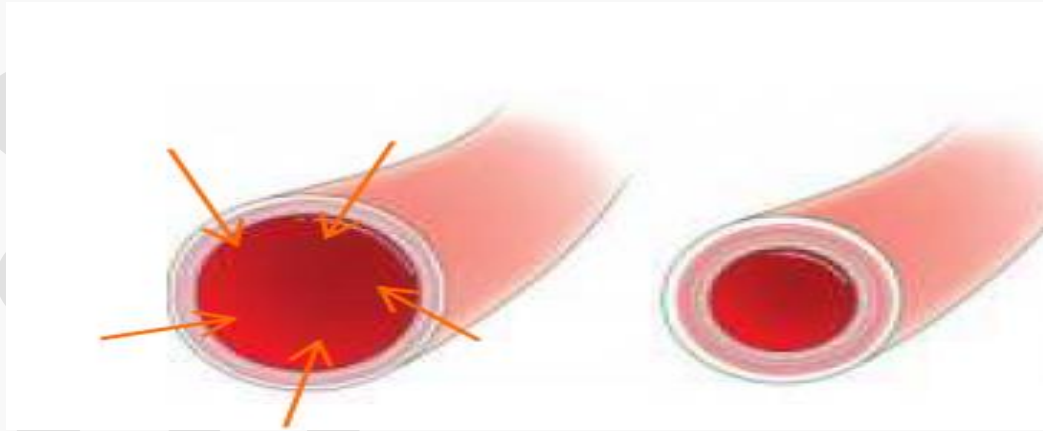
Examples of Catarrhal Inflammation



Pathogenesis :

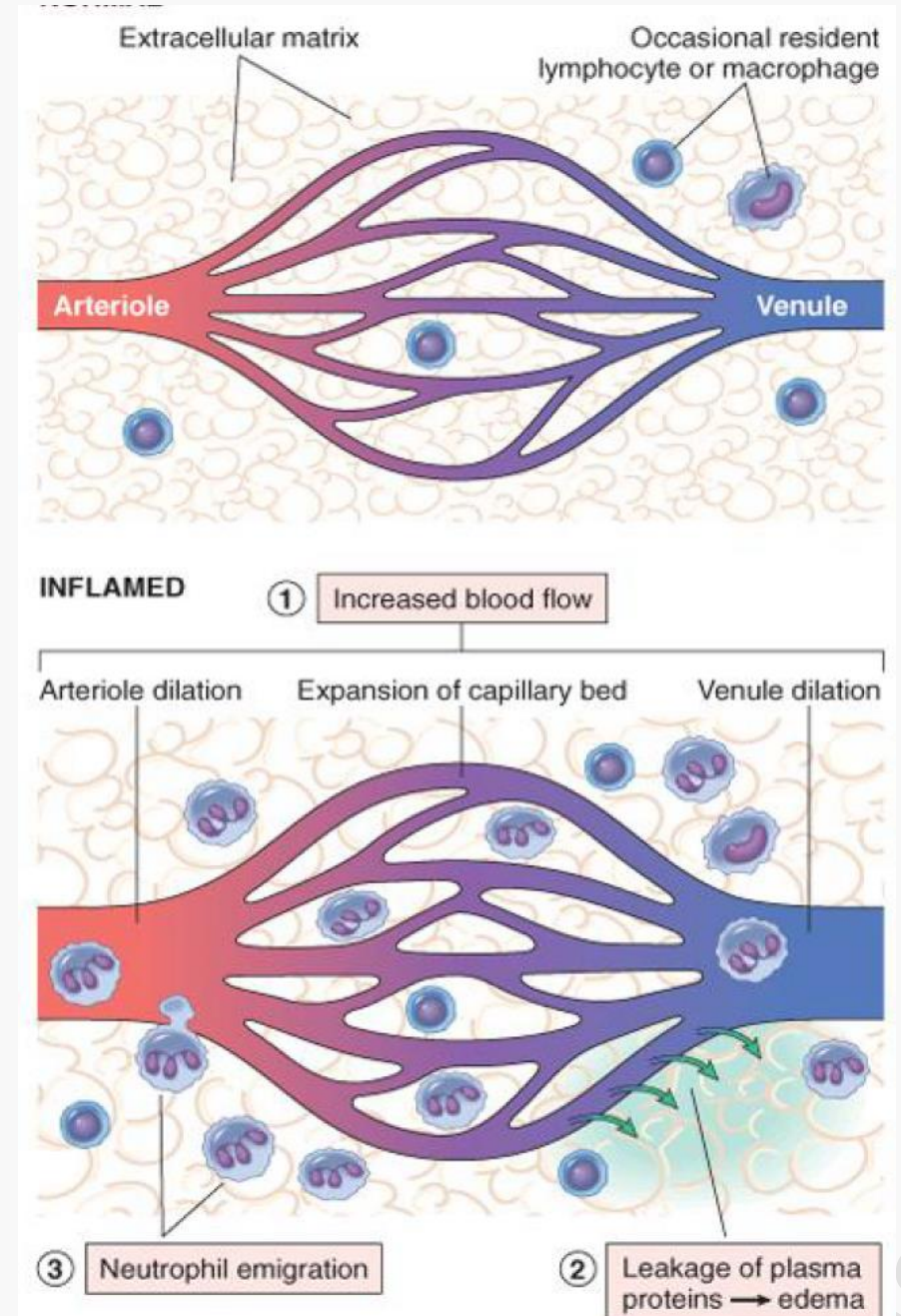
- Exudative Inflammatory Reaction is the response pattern of acute inflammation, characterized by exudation of blood components and emigration of blood cells. It involves 3 elements:





1

Dilation of small vessels, leading to an increase in blood flow



2

Increased permeability of the microvasculature, enabling plasma proteins and leukocytes to leave the circulation, fluid leak from blood vessels (exudation) results in edema

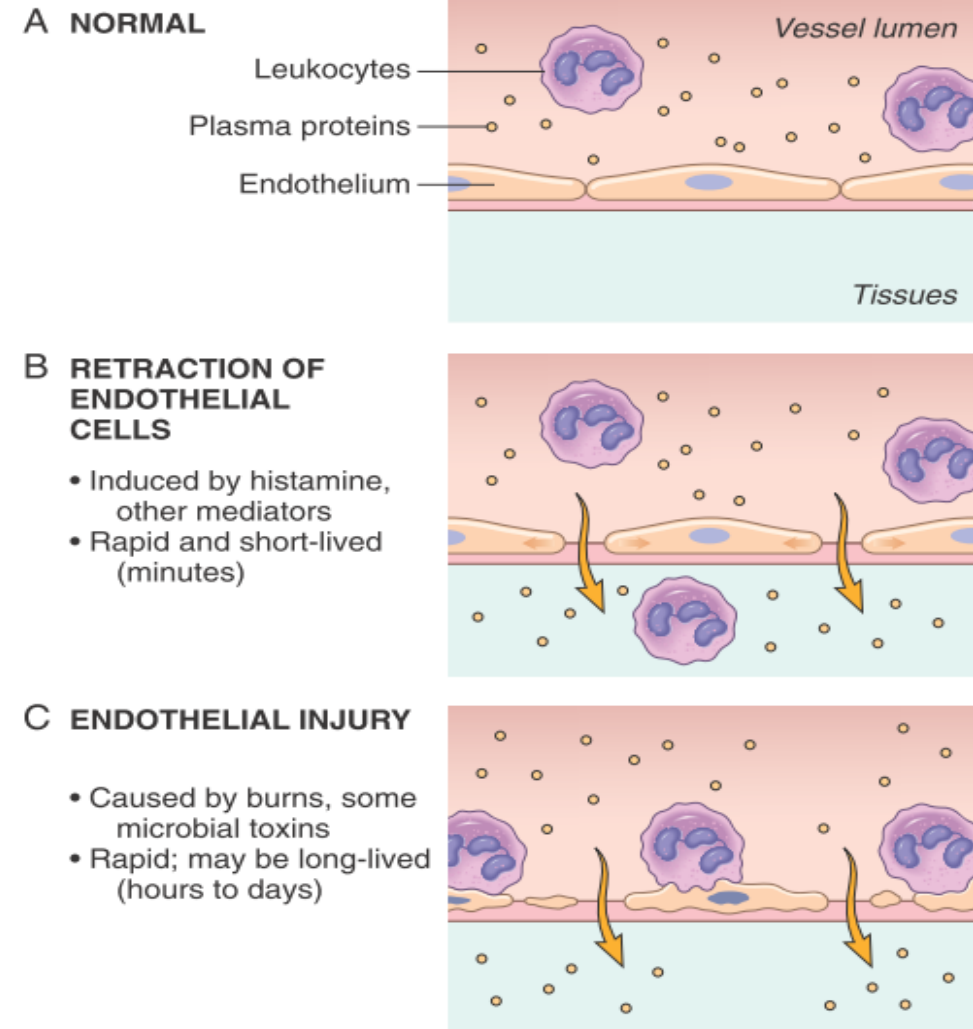


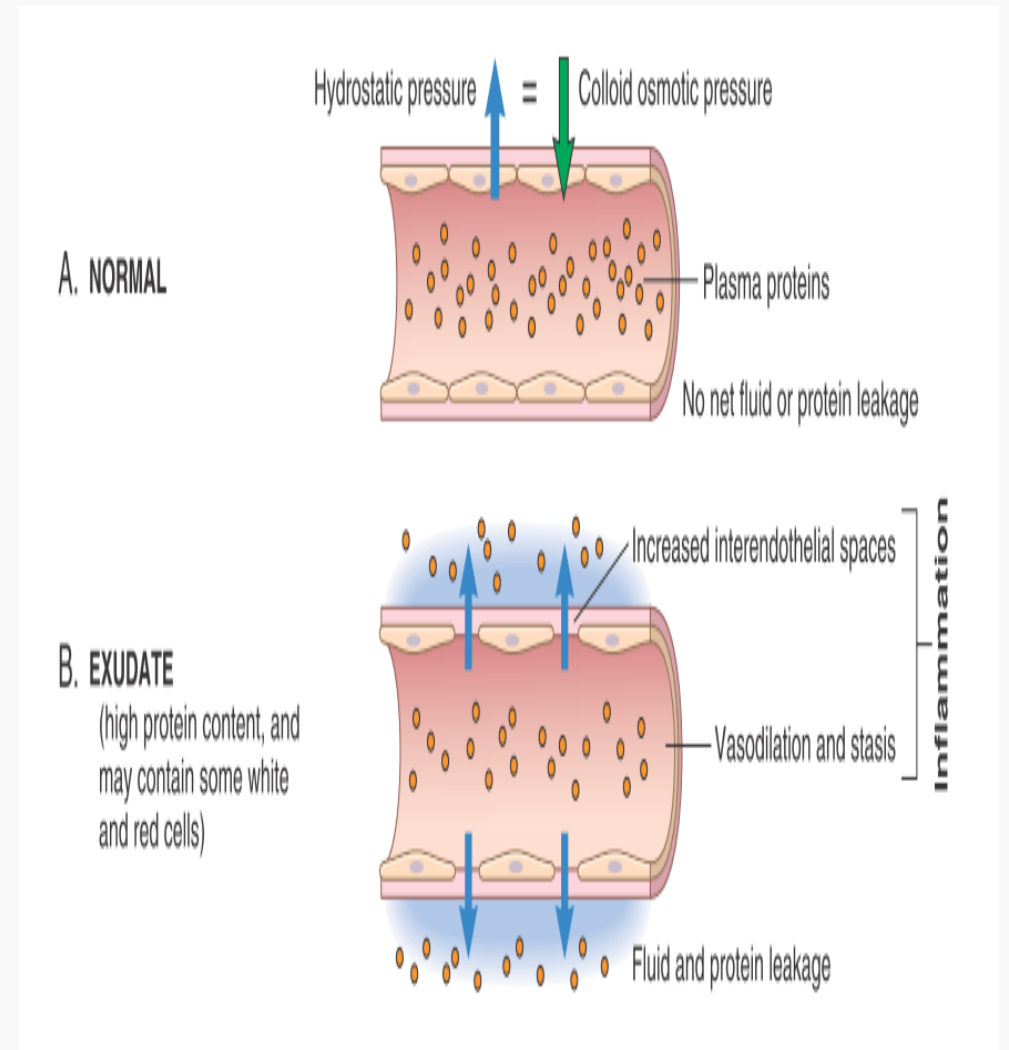
Fig. 3.3 Principal mechanisms of increased vascular permeability in inflammation and their features and underlying causes.

Normally whatever little fluid is left in the interstitial compartment is drained by the lymphatics and thus no oedema results.

In inflamed tissues, the endothelial lining becomes leaky.

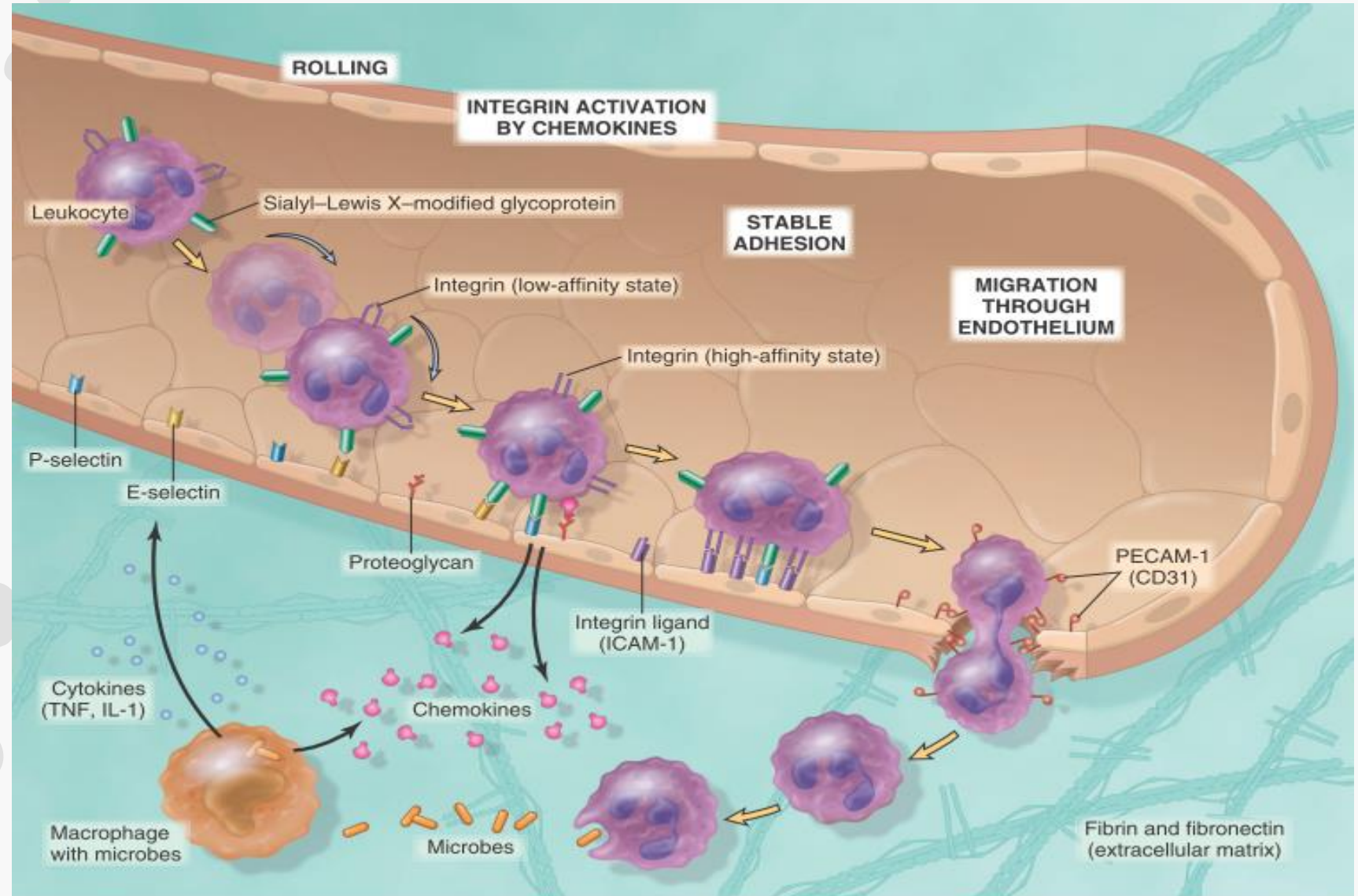
Consequently, the intravascular osmotic pressure decreases and osmotic pressure of the interstitial fluid increases resulting in excessive outward flow of fluid into the interstitial compartment.

EXUDATIVE **INFLAMMATORY**
OEDEMA

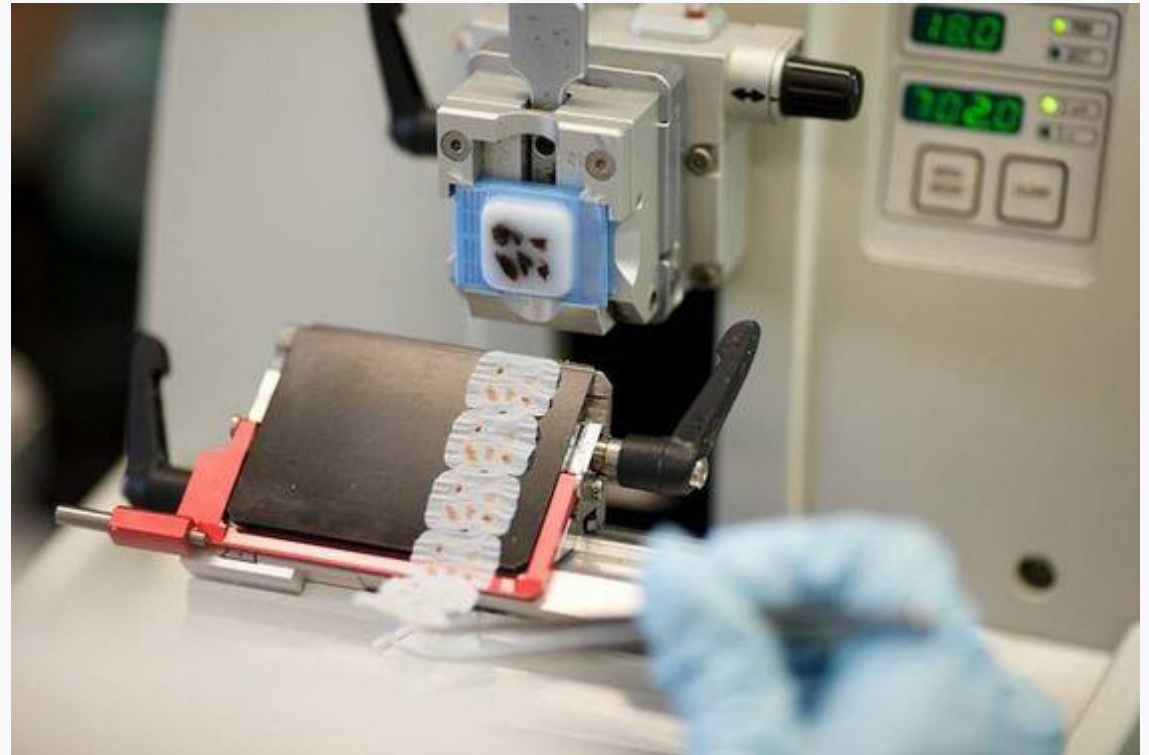


3

Emigration of the leukocytes from the microcirculation, their accumulation in the focus of injury, and their activation to eliminate the offending agent



Histopathology



Macroscopically

- Catarrhal discharge, thick, edematous, erythematous mucosa



Cornell University/PIADC



Microscopically:

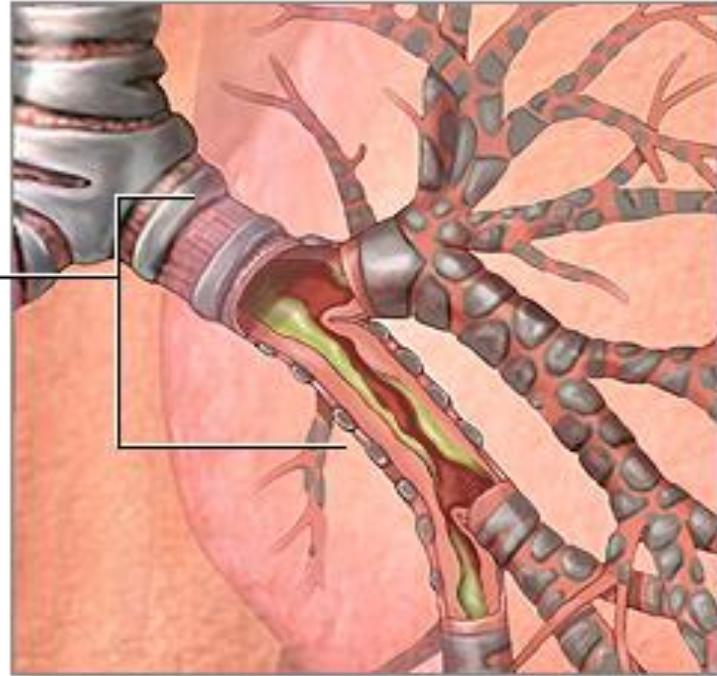
- *The mucous* lining cells are swollen, some cells are ruptured
- *The submucosa* shows hyperemia, edema and cellular infiltration with leucocytes



The mucosa and submucosa appear red and swollen, with a slight degree of lymphatic infiltration.

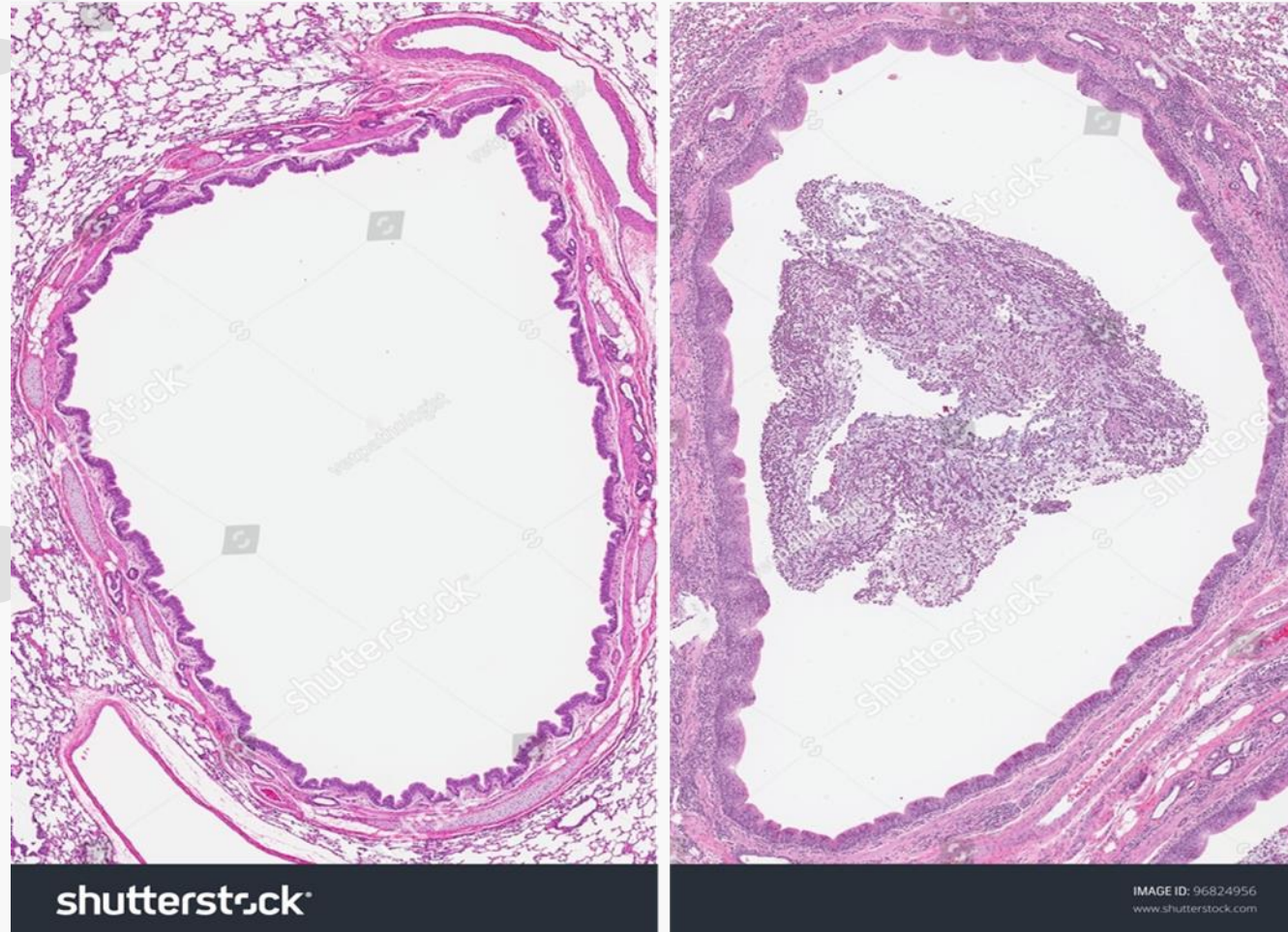


Inflamed
primary and
secondary
bronchi

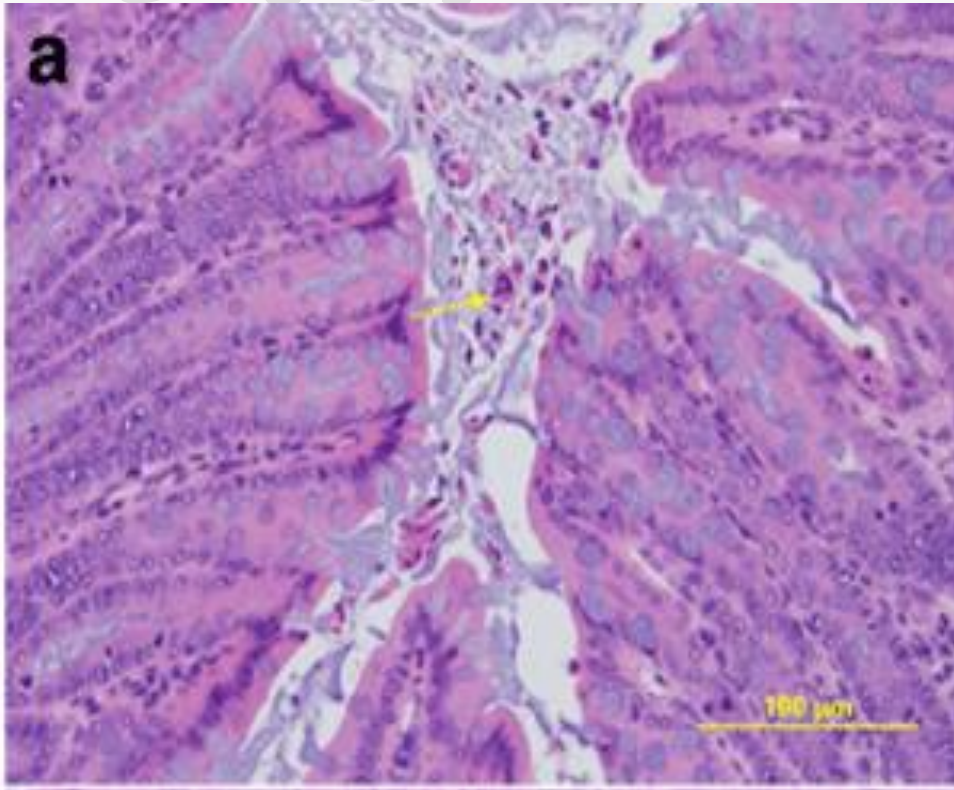


Acute bronchitis usually results from
an infection such as a cold or flu

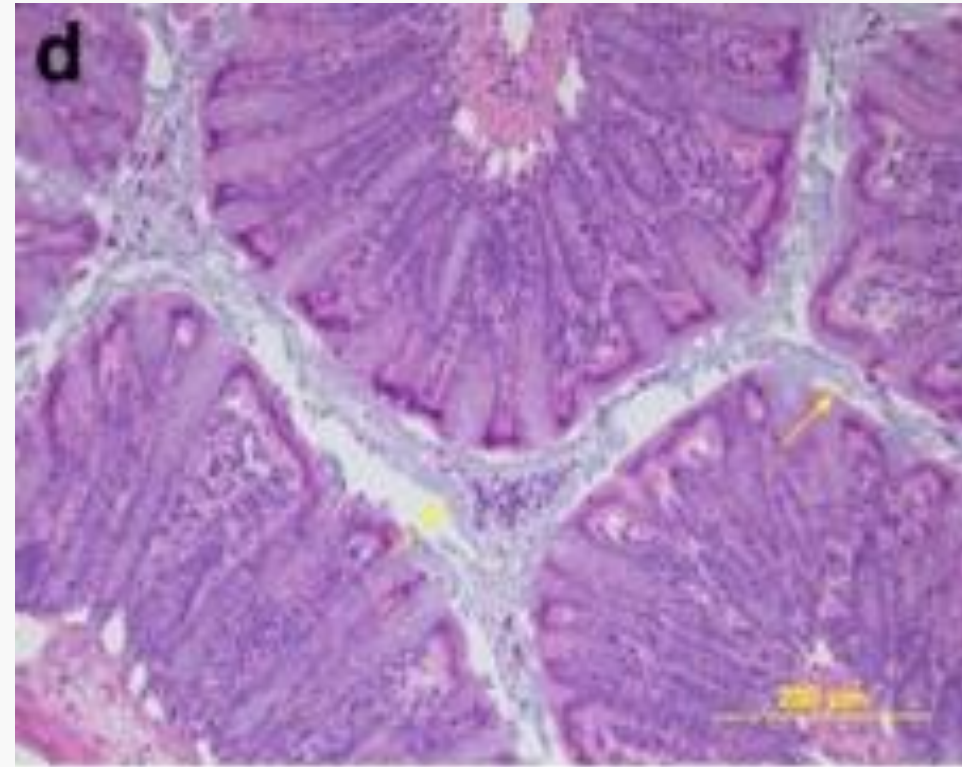
 ADAM.



Acute bronchitis. Normal healthy bronchi is on the left with clear airway. Inflammation of the bronchi with the airway filled with thick mucus, inflammatory cells and debris (right).



A catarrhal inflammation showing groups of degenerative epithelial cells (arrow) in the lumen of colon



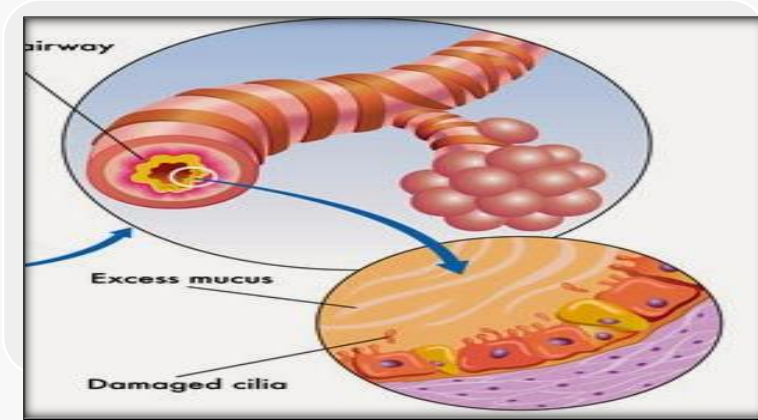
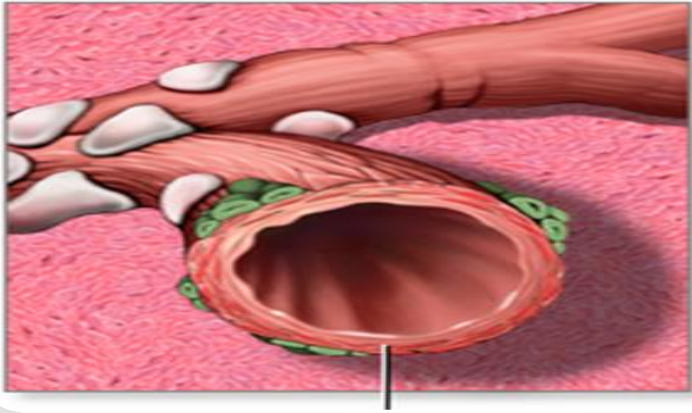
Mucoid exudate showing large lakes of basophilic mucus (arrow) in the lumen of colon

**What is its
fate**



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Normal



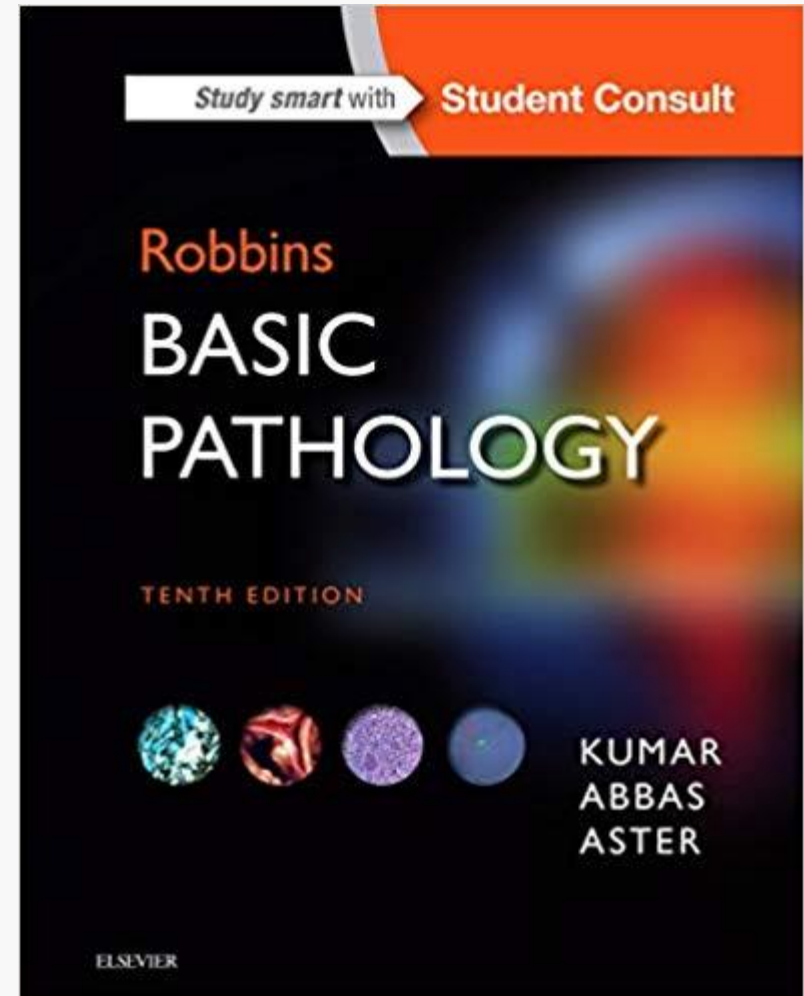
Fate:

Resolution

Secondary
Bacterial
Infection

References:

1) Robbin's basic pathology 10th edition



Thank you

