

## Teaching topics : Cellular pathology

### Teaching outline :

#### A. Cellular adaptation

- a. Hyperplasia
- b. Hypertrophy
- c. Atrophy
- d. Metaplasia

#### B. Cell injury and cell death

- a. Causes of cell injury
- b. Targets of injurious stimuli
- c. Biochemical mechanisms responsible for cell injury
- d. Reversible versus irreversible cell injury

#### C. Necrosis

#### D. Apoptosis

- a. Morphologic features of apoptosis
- b. Biochemical features of apoptosis
- c. Mechanisms of apoptosis
- d. Regulation of apoptosis
- e. Examples of apoptosis

#### E. Subcellular responses to cell injury

#### F. Intracellular accumulations

#### G. Aging

- a. Morphologic alterations
- b. Telomeres and telomerase
- c. Accumulation of metabolic and genetic damage
- d. Oxidative stress and aging