UNIT-XI

Introduction To Autacoids And Their Antagonists

Autacoids

Autacoids are naturally occurring substances having widely different structures and pharmacological activities. The word autacoid comes from the Greek "autos (self) and "akos" (medicinal agent, or remedy).

Following are the most important autacoids

- **Prostaglandins (Misoprostol)**
- **Histamine**
- **Serotonin**

They have the common feature of being formed by tissues on which they act, thus they function as local hormones.

Prostaglandins

Prostaglandins are unsaturated fatty acids derivatives. They act on the tissues in which they are synthesized.

Therapeutics Uses Of Prostaglandins

Abortion
Several of the prostaglandins used as abortifacients (agents causing abortion). Prostaglandins have the advantages of stimulating uterine contractions at any stage of pregnancy.

Peptic Ulcer
Prostaglandins protect the mucous membrane of stomach. Misoprostol is sometimes used to inhibit the secretion of gastric acid.

Histamine

Histamine is also an autacoid. It is a chemical messenger that mediates a wide range of cellular responses including allergic and inflammatory reactions, gastric acid secretion and neurotransmission in parts of the brain.

Mechanism Of Action

Histamine binds with histamine receptors H1, H2, H3, and H4. Where H1 and H2 receptors are widely expressed and are targets of clinically useful drugs.

Antihistamines

H1 **Antihistamines**
These compounds are H1 receptor blockers. They do not influence the formation or release of histamine. They only block the histamine response at target tissue.

Therapeutic Uses

Allergic And Inflammatory Conditions
H1 receptor blockers are useful in treating allergies caused by antigens.

Motion Sickness And Nausea

Along with the antimuscarinic agents, H1 receptor blockers are the most effective agents for prevention of the symptoms of motion sickness, nausea.

Somnifacients

Many first generation antihistamines have strong sedative properties and are used in the treatment of insomnia.

H2 Antihistamine

These agents block the H2 histamine receptors. The chief clinical use is a inhibitors of gastric acid secretion in the treatment of ulcers and heartburn.

Serotonin

Serotonin is widely distributed in nature, being found in plant and animal tissues. Serotonin is an important neurotransmitter a local hormone in the gut, a component of the platelet clotting process and is thought to play a role in migraine headache.