In vitro evaluation of antacid

Antacids are chemical substances which on ingestion act by neutralization of gastric juice to form a neutral salt and they may also coated the mucosa with a protective layer and inhibit pepsin activity, its provide symptomatic relief in gastritis, gastroesophageal reflux disease and hyperacidity.

Antacids should not be confused with gastric acid inhibitors, such as the H2 receptor blockers (cimetidine, ranitide and others) or the proton pump inhibitors (lansoprazole, omeprazole and others). Although all three classes of drugs act to reduce the levels of gastric acid, their mechanisms are different, and this affects the appropriate use of drugs.

Antacids have a rapid onset and short duration of action, and are most appropriate for rapid relief of gastric discomfort for a short period of time.

They are two types:

1-Water soluble (systemic type): have rapid onset with transient duration of action like: sod bicarbonate which on prolong use causes systemic alkilosis.

2-Water in soluble (non systemic type) have slow onset but prolong duration of action like Magnesium carbonate, Mg hydroxide, Mg trisilicate and Aluminium.

Foods And Drinks That Are Natural Antacids

While change in lifestyle, reducing weight and pharmacologically prepared antacids can reduce heartburn, there are natural home remedies that are as effective. Besides, natural antacids do not have any side effects as that found in commercially prepared antacids. These antacids are nothing but a select of food that we eat.
**What are the warnings and precautions for antacids?**

- Antacids (for example, calcium carbonate) when consumed in high doses and for long periods of time may cause acid rebound. Acid rebound is a condition in which the stomach produces even more acid after the consumption of foods and drinks. Fortunately, the effects of acid rebound are not clinically important.

- High-dose calcium carbonate and sodium bicarbonate when taken together can cause a condition called milk-alkali syndrome. Its symptoms include headache, nausea, irritability, and weakness, hypercalcemia (high blood calcium levels), and reduced function of the kidneys.

- Extensive use of aluminum-containing antacids may cause hypophosphatemia (low phosphate levels in the blood), which in severe cases could lead to muscle weakness, anorexia, and osteomalacia (softening of the bones due to defective bone mineralization).

- Antacids containing aluminum hydroxide should be used with caution in patients who have recently suffered massive upper gastrointestinal bleeding.

- For patients with conditions such as high blood pressure, chronic heart failure, renal failure and those who have sodium or salt-restricted diets, it is important to pay attention to the sodium level in sodium-based antacid preparations such as sodium bicarbonate.

- Antacids should not be given to children under six years of age.

**Aim of experiment:**

Is to evaluate antacids activity of Maalox plus (mg and AL hydroxide suspension) and citogran.