In the name of God
Evaluation of serum levels of IL-22 in peptic ulcer patients
Peptic ulcer:

Means a benign damage to the lining of the gastrointestinal mucosa.
There are usually between gastric acid secretion and this damage. But there is now the main cause of ulcers and Helicobacter pylori bacteria known to reproduce. Through different ways such as damage to the protective layer of gastric mucosa causes peptic ulcer, The main treatment is an antibiotic treatment. Stomach ulcers, duodenal ulcers heal more slowly than they are, and the greater the likelihood of malignancy, and is often accompanied by inflammation of the stomach (gastritis) are. Most ulcers are small (diameter less than 2 cm). Peptic ulcers of the stomach is usually in the antrum (the beginning of the stomach) are scattered.
peptic ulcer
Common symptoms:

- Tingling, perforation or erode for 30 minutes to 3 hours. Is often as heartburn, or hunger is interpreted.

- In some cases the pain can occur immediately after eating; in others, it may not occur until hours later. The person often awakens at night.

- Pain may be associated with drinking milk, eating, resting or taking antacids relief. Loss of appetite and weight (duodenal, may be weight gain, as person eats more to ease discomfort) - repeated vomiting - blood in the fashion Fv -
Pathogens:

The most important causes of this disease are bacteria *Helicobacter pylori.*

80-70% of duodenal and gastric ulcers caused by it.

Seems to have a direct relation with stress ulcers and people with stressful jobs are more prone to have the disease.

Increase and decrease stomach acid, smokers especially men, middle-aged or elderly people, people with O blood group most affected
Prevalence

About 50% of the world population are infected with the bacterium Helicobacter pylori.

The prevalence of this disease in our country is about 6 to 15%.

The ratio is equal in men and women.
Diagnosis:

Clinical features,

Photos barium swallow radiograph after,

Endoscopy is useful in the diagnosis,
Cytokines:

A large group of molecules that are made of protein and glycoprotein.

During immune responses that communicate between cells. So-called biological response modifying them.

interleukin (IL):

Are a large group of cytokines. By category range of cells (cells T, mononuclear phagocytes and tissue cells) generated Weber on leukocytes affect other cells.
**IL-22:**

IL-22 is a member of the family cytokines IL-10. And genes on chromosome 12 is with a 5 exons and introns 2. (52)

And vital role in inflammation, mucus is in the safe care and tissue homeostasis (59).

This cytokine receptors on the cell surface of the skin and gastrointestinal.

To produce natural antibiotics such as Defensins of these cells to be.
Production:

Th17 cells, IL-17 and IL-22 can simultaneously control their IL-23 production (60).

In the lungs, it seems that the main source of IL-22 in addition to cells, Th17, as well Tγδ cells (61).

Studies have shown that well defined population of cells, natural killer (NK) cells that produce IL-22 can sometimes called NK22.
A literature review:

In some studies have shown that IL-22 after infection with bacteria can increase the protective epithelial tissue and having a synergistic effect with other cytokines secreted by Th17 cells, including IL-17 induces protective immunity against infection (65);

and in contrast to other studies on IL-22 is characterized by inflammatory and pathological after infection in the mouse model reported (66).
Professor McGuckin from the University of Queensland, Institute of Matter (MRI-UQ) says

Underlying cause high blood sugar in type 2 diabetes, stress on beta cells that results in the inability of the cell.

IL-22 can be capable of generating insulin producing beta cells restored blood sugar control and insulin sensitivity in tissues responsive correct, the researchers note these findings are optimistic that they can be replaced by regular injections of insulin injection irregular protein IL-22 help.
In a report in the journal Nature published,

The relationship between microbes in the digestive tract and metabolic disorders such as obesity, diabetes and heart disease has been proven.

The IL-22 plays an essential safety and anti-microbial protection barriers mucosal gut plays.

Also in terms of defects receptor IL-22, people are more susceptible to metabolic disorders are.
Other studies show that

IL-22 gene expression in intestinal mucosa of people with inflammatory bowel disease are increasing. On the other hand inflammatory bowel disease one of the factors. That are involved in the development of colon cancer.

The relationship between IL-22 gene with colon cancer risk.
National Institute of Health in Bethesda Maryland virologist Roger Glass
doctor says

When rotavirus cells attack the small intestine. IL22 lead to colon cells more resistant to virus attacks

While IL18 stimulates the cells infected with the self-destruction, the spread of the virus. As a result, when the two were active molecule in addition to bacteria, they also deal with rotavirus
Studies show that:

If you receive allogeneic bone marrow transplantation in mice and then treated with IL-22, it increases epithelial regeneration and also reduced the incidence of GVHD.

This finding represents a basic mechanism by which the immune system is able to support the epithelium and activation of stem cells to promote reconstruction.
**Method:**

In this study, 32 patients, 8 healthy subjects as controls

All patients by physicians specializing in the diagnosis and the disease was confirmed by endoscopy.

Blood samples were taken from healthy. They serum was stored at -20 until the day of testing.

And then provided with the kit Abnova company made in Taiwan were measured.
Conclusion:

The results showed that in patients with gastric ulcer is significantly increased levels of IL-22 compared to healthy subjects.

It can be concluded that IL-22:

Increased division, anti-stress effect, the stability of the epithelial cells.

Increased production of mucus

IL18 is a synergistic effect. In this respect, proof of stability in a lasting inflammation and bacteria in the stomach.
Metabolic properties. And increases insulin sensitivity,

Mucosal gastrointestinal and endocrine function maintains

Fat metabolism in the liver and fat tissue regulates.
and at the end

IL-22 can be used as a therapeutic target in metabolic diseases and establish homeostasis used.
Thanks
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