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# Celiac disease

Prepared by :Maha Hmeidan nahal

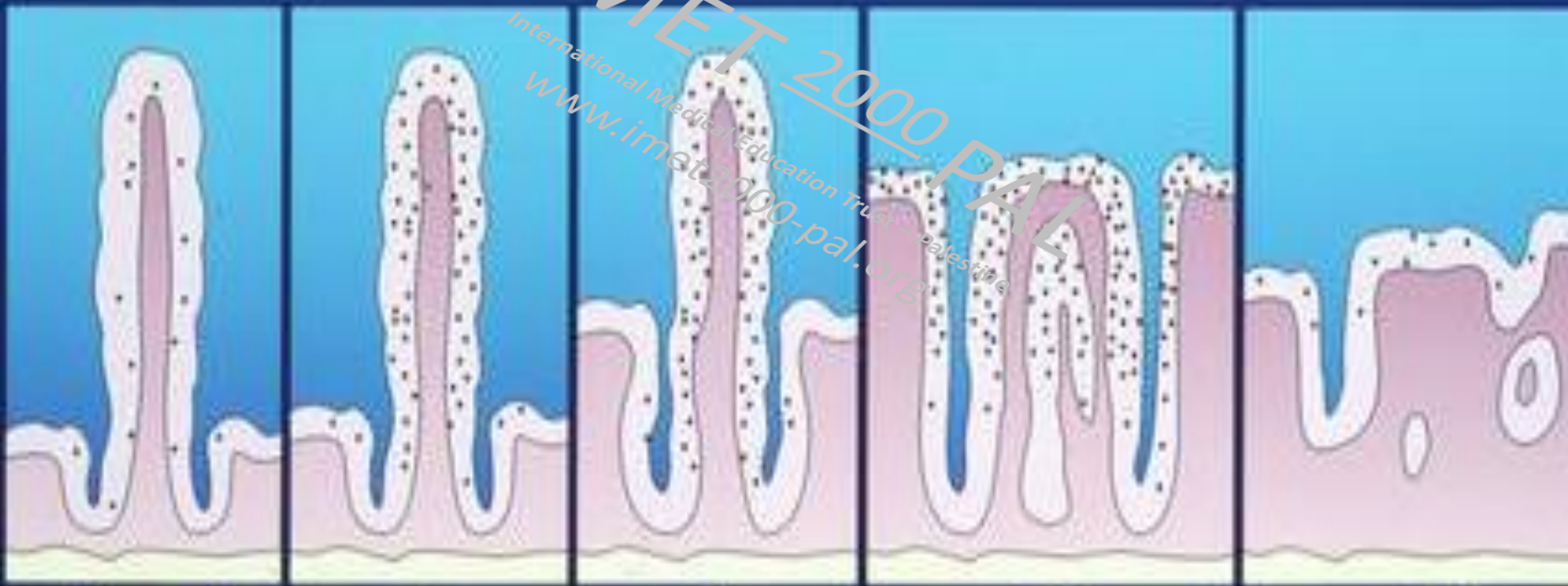
# What is celiac disease

- ▶ Is Gluten-sensitive enteropathy, it is an autoimmune inflammatory disease of the small intestine that is precipitated by the ingestion of gluten, a component of wheat protein, in genetically susceptible persons.
- ▶ It has diverse clinical manifestations that resemble a multi-systemic disorder rather than a primary intestinal disease
- ▶ Originally considered a rare disease of childhood, celiac disease is however now recognized as a common condition that may be diagnosed at any age.

# What is gluten

- ▶ **Gluten** is the term for the storage proteins of wheat.
- ▶ **Gliadin** is the alcohol-soluble fraction, that has been most studied,
- ▶ but most or all gluten proteins are likely to be toxic in celiac disease, along with similar proteins in **barley** (hordeins) and **rye** (secalins).
- ▶ These proteins induce in the intestine, an inflammatory process that results in villous atrophy.
- ▶ The inflammatory process results in disturbed intestinal function, especially malabsorption of nutrients
- ▶ Withdrawal of gluten from the diet results in regression of the process.

# Pathological Spectrum



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Normal



I



II



III



IV

# Characteristics of celiac disease

The clinical classification of celiac disease is based on the presence of gastrointestinal symptoms. presents with diarrhea.

- ▶ in asymptomatic or silent celiac disease gastrointestinal symptoms are lacking or not prominent even though extra-intestinal symptoms may be present.

# Significance of celiac disease

- ▶ **Symptomatic CD:** associated with considerable morbidity due to chronic gastrointestinal symptoms and malabsorption of nutrients, weight loss, metabolic bone disease, anemia and general debility.
- ▶ **silent CD:** have occult manifestations of the disease, including reduced bone density, iron or folate deficiency and associated autoimmune diseases that are frequently more clinically significant.

# Cause of Celiac disease

- ▶ The exact cause of celiac disease is unknown. What is known is that the disease is often inherited. If someone in your immediate family has it, chances are 10 percent to 20 percent that you may have it too.

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# Causes

- ▶ Normally, your small intestine is lined with tiny, hair-like projections called villi, it work to absorb vitamins, minerals and other nutrients from the food you eat.
- ▶ Celiac disease results in damage to the villi. Without villi, your body is unable to digest and absorb nutrients necessary for health and growth. Instead, nutrients such as fat, protein, vitamins and minerals are eliminated with your stool.

# Diagnosis

- ▶ Serologic testing that included IgA and IgG antigliadin antibodies (AGA) should be considered in patients who are at increased genetic risk for gluten-sensitive enteropathy (i.e., family history of celiac disease or personal history of type I diabetes) and in patients who have chronic diarrhea, unexplained anemia, chronic fatigue, or unexplained weight loss.
- ▶ Intestinal biopsy.
- ▶ Early diagnosis and management are important to avoid serious consequences of malabsorption, such as osteoporosis and anemia.

# Risk factors

- ▶ Although celiac disease can affect anyone, it tends to be more common
- ▶ genetic factors/familial

In people with autoimmune disorders such as:

- ▶ Lupus erythematosus.
- ▶ Type 1 diabetes
- ▶ Rheumatoid arthritis
- ▶ Autoimmune thyroid disease

# Symptoms of celiac disease may include one or more of the following

- ▶ gas
- ▶ recurring abdominal pain
- ▶ chronic diarrhea
- ▶ constipation
- ▶ pale, or gray foul-smelling, or fatty stool
- ▶ weight loss / weight gain
- ▶ fatigue
- ▶ unexplained anemia (a low count of red blood cells causing fatigue)
- ▶ bone or joint pain
- ▶ osteoporosis
- ▶ failure to thrive in infants
- ▶ Delayed growth
- ▶ listless and irritable.
- ▶ Older children often present with extra-intestinal manifestations, such as short stature, neurological symptoms or anemia.

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# Treatment and management of celiac disease:

The only treatment necessary for celiac disease is absolute avoidance of gluten-containing foods.

- ▶ Dietary management with gluten free diet
- ▶ Corticosteroids (such as prednisone) and intravenous ("I.V") fluids may be temporarily given while the gluten-free diet is taking hold.

# What are the complications of celiac disease

- ▶ Lymphoma and adenocarcinoma
- ▶ Osteoporosis
- ▶ Miscarriage and congenital malformation
- ▶ Short stature

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