Periodic fever syndrome

-Recurrent fever syndromes, known **as periodic fever syndromes**, are a group of disorders that cause recurrent fever that don't have an infectious (virus, bacteria) cause.

- Most periodic fever syndromes are **genetic diseases.**

- Recurrent fever syndrome **isn't an autoimmune disease.**

Some of the different types of periodic fever syndromes

- Familial Mediterranean fever (FMF)
- Periodic fever, aphthous-stomatitis, pharyngitis, adenitis (PFAPA)
- Tumor necrosis factor receptor-associated periodic syndrome (TRAPS)
- Hyperimmunoglobulin D syndrome (HIDS)
- Neonatal onset multisystem inflammatory disease (NOMID)

symptoms of periodic fever syndromes

- The most common symptom of the condition is a episodic fever.

- Each type of recurrent fever syndrome may produce different symptoms:

- **FMF (Familial Mediterranean fever)** may cause inflammation and severe pain in joints. A rash may develop in lower legs or ankles.

- **PFAPA (Periodic fever, aphthous-stomatitis, pharyngitis, adenitis)** may cause a sore throat, mouth sores and swollen lymph nodes in neck.

- **TRAPS (Tumor necrosis factor receptor-associated periodic syndrome)** may cause chills and muscle pain in trunk and arms. They may develop a painful red rash that moves from their arms and legs to their trunk.

- **HIDS (Hyperimmunoglobulin D syndrome)** may cause chills, headaches, abdominal pain, loss of appetite and flu-like symptoms.

- **NOMID (Neonatal onset multisystem inflammatory disease)** may cause premature birth in some infants. Newborn may have a fever and a rash that looks like hives but doesn't itch.

Familial Mediterranean Fever

Familial Mediterranean Fever

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Outlines:

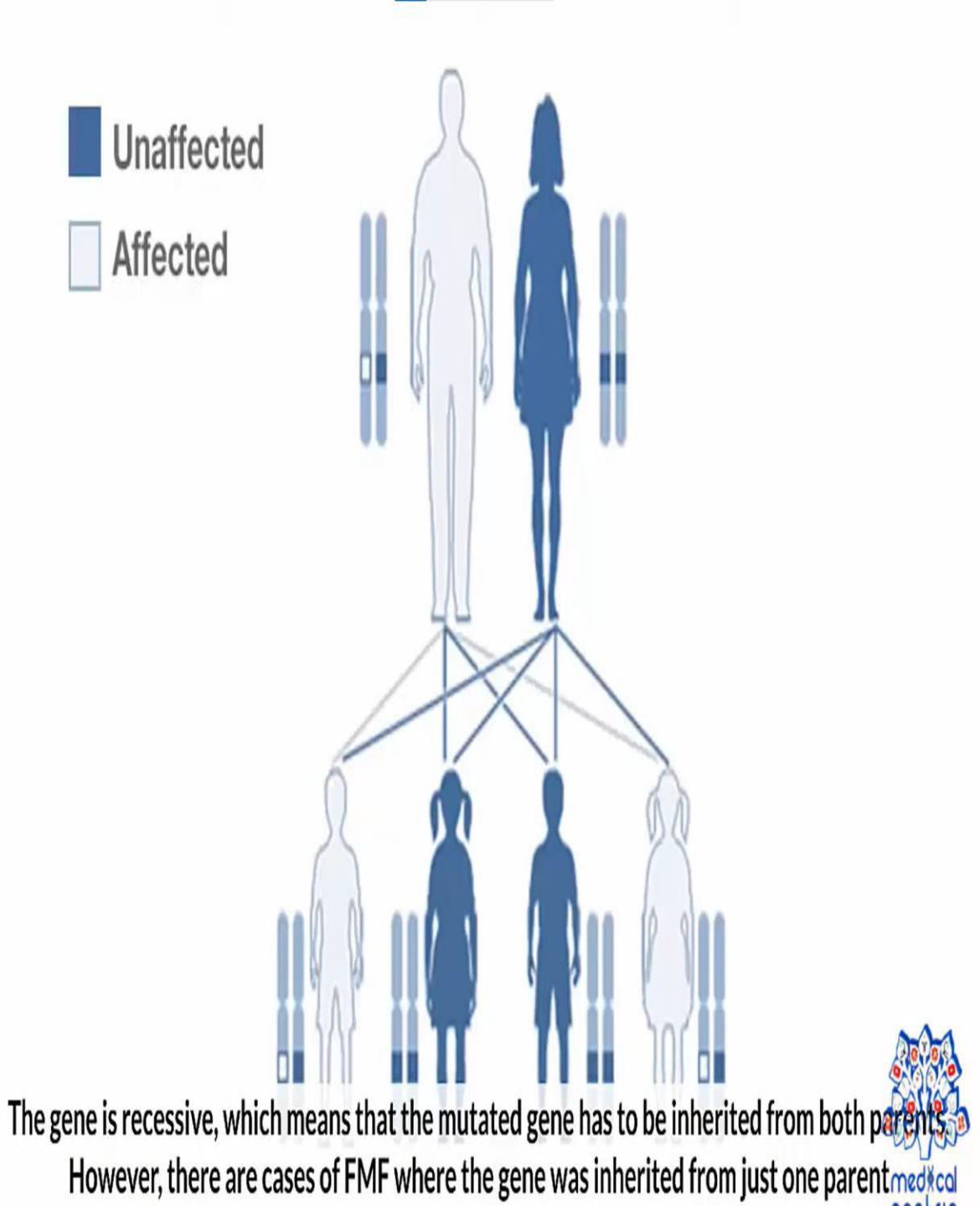
- Definition
- Genetic basis
- Epidemiology
- Clinical manifestations
- Complication
- Diagnosis and DD
- Management
- Prognosis
- Case study

Epidemiology:

- Overall, FMF has a higher prevalence in populations of Mediterranean origin. However, cases of FMF have also been reported in other populations worldwide due to migration and interethnic marriages.

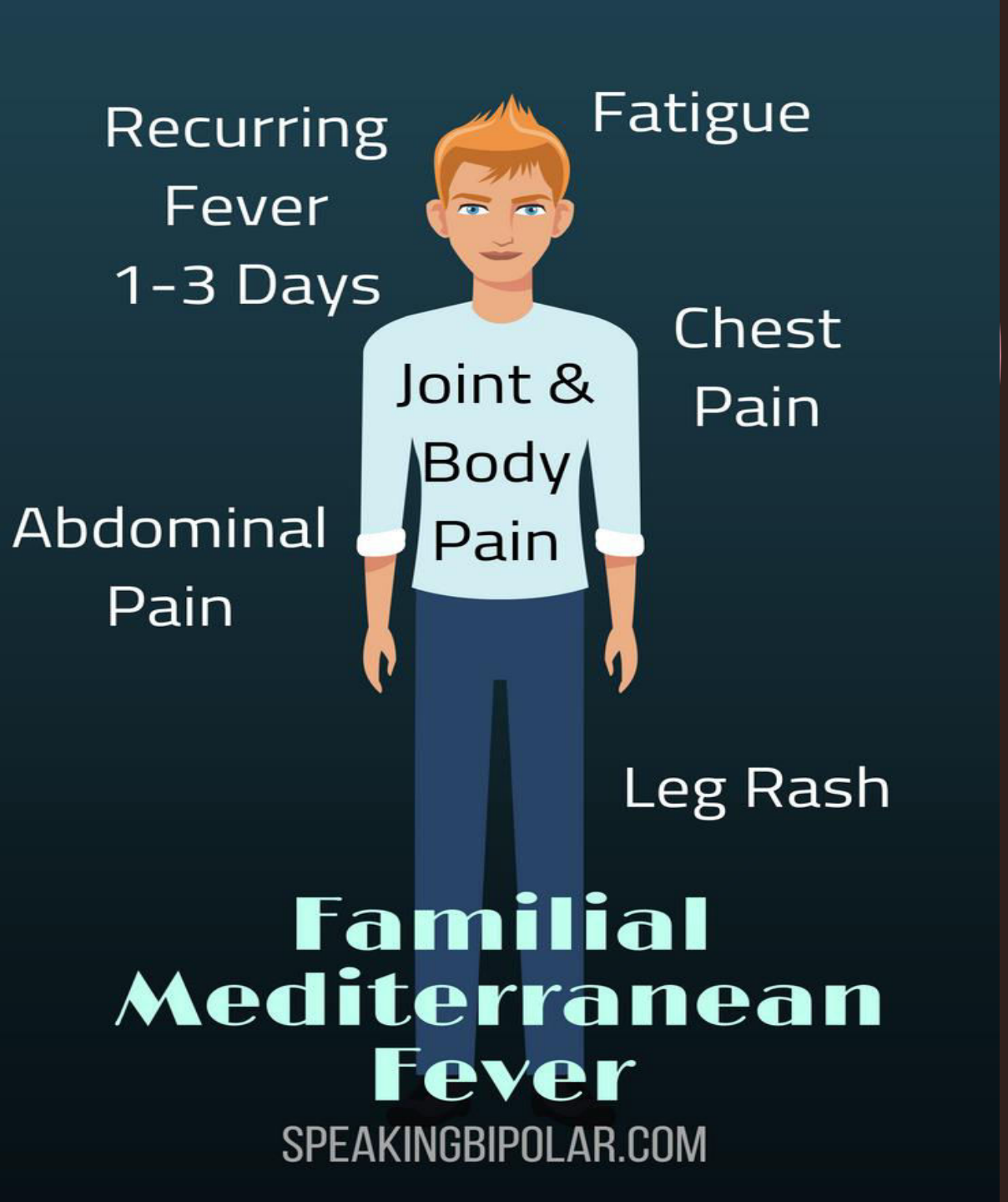
- Definition of Familial Mediterranean Fever:

Familial Mediterranean fever (FMF) is a hereditary autoinflammatory disorder characterized by recurrent attacks of fever and serosal inflammation.



Genetic Basis:

- Mediterranean fever (FMF) is usually considered an autosomal recessive disease, and affected individuals have biallelic pathogenic mutations in the Mediterranean fever (*MEFV*) gene located on the short arm of chromosome 16. Five founder mutations, V726A, M694V, M694I, M680I, and E148Q, account for approximately 75 % of FMF chromosomes from typical cases in Mediterranean population. Among them, M694V is the most frequent mutation in all four populations.

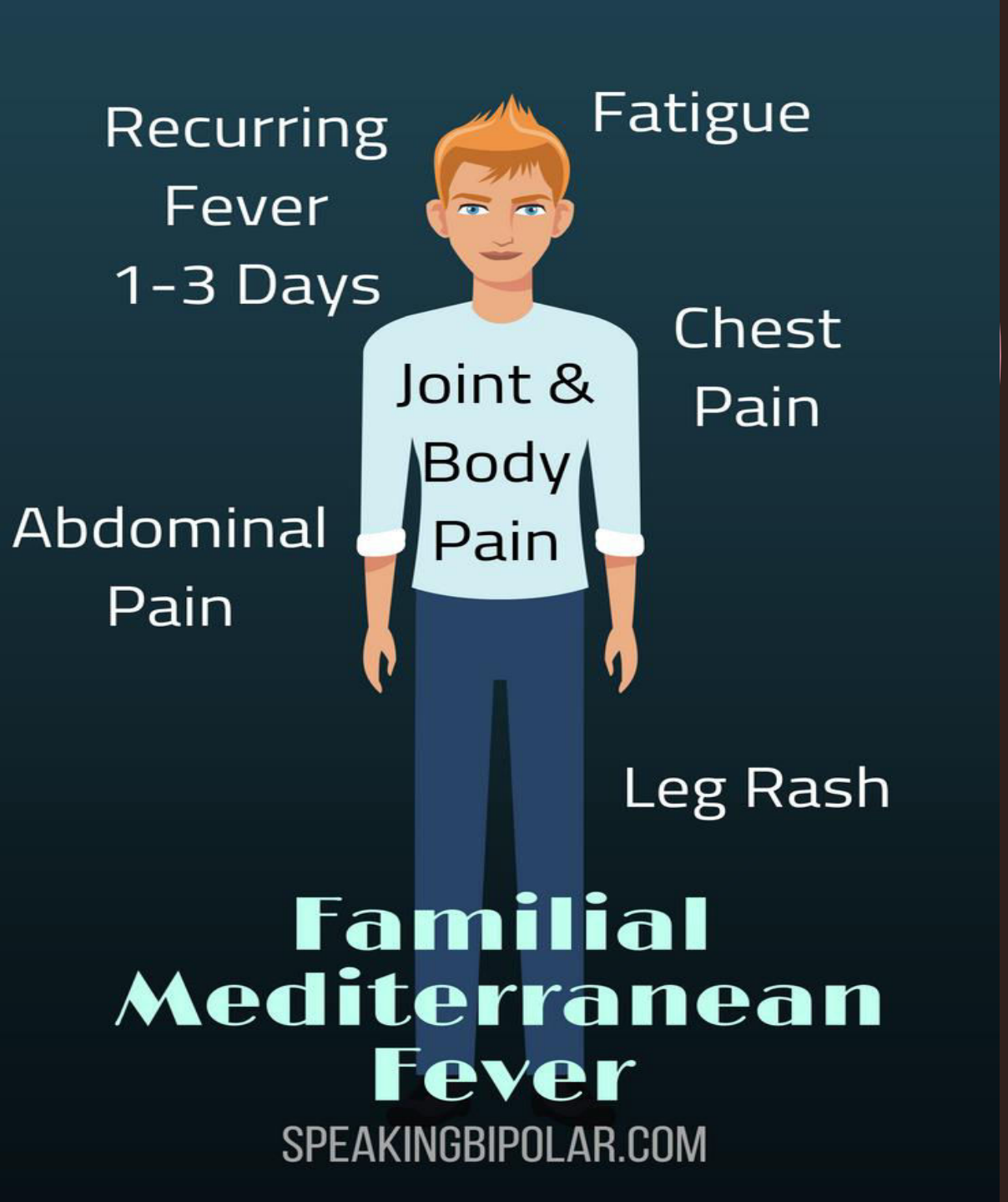


Clinical features:

- The symptoms and their severity vary among different population.
- Mostly they present with recurrent attacks of fever and serositis (in one or more sites), Erysipelas-like erythema (no urticaria or maculopapular rash), Headache, abdominal pain, chest pain, and joint involvement.
- Fever must present for FMF diagnosis and may be the only sign of the disease (the only situation where an acute attack of FMF is present without fever is when the patient uses colchicine) here are its characteristics

1) The temperature rises from 38° to 40°C , although mild attacks may be accompanied by a subfebrile temperature (37.5° to 38°C).

2) The duration of the fever is brief, lasting between 12 hours and three days



Clinical features:

- The initial attack occurs before the ages of 10 and 20 years in 65 and 90% of cases, respectively. However, in rare cases, the initial attack can occur in individuals older than 50 years of age.
- The frequency of attacks is highly variable, even in a given patient. The intervals between episodes are irregular, ranging from one week to several months or years.
- Episodes last for one to three days and then resolve spontaneously. In addition Patients are asymptomatic between attacks.
- Some patients have a stereotypic prodrome (an aura) before their attacks. This may include various constitutional and physical signs, such as restlessness at the site where the symptom is about to occur, anxiety, irritability, increased appetite, and taste alterations

Diagnostic Criteria:

- Clinical Features as mentioned previously are gathered by history taking and physical examination.
- Ethnicity and Family History.
- Genetic Testing.

Diagnostic Criteria:

- Laboratory Findings: they are not specific but can help in FMF diagnosis.

1) Elevated Acute-Phase Reactants

2) Leukocytosis

3) increased serum amyloid A level

Slide 7: Differential Diagnosis

- Acute appendicitis.
- IBD.
- SLE
- Behçet's disease.
- Reactive arthritis.

Complications:

- Amyloidosis: This is the most significant and severe complication of FMF
- Arthritis and joint damage
- Infertility
- Peritonitis and abdominal complications
- Pleurisy and lung complications
- Psychosocial impact

Management: Acute Episodes

- Managing acute episodes of Familial Mediterranean Fever (FMF) involves a combination of medications and lifestyle measures to control inflammation and alleviate symptoms.
- Medications:

1) Nonsteroidal anti-inflammatory drugs (NSAIDs) are often the first-line treatment for FMF episodes. NSAIDs are typically taken at the onset of symptoms and continued until the episode subsides.

2) Colchicine is the mainstay of treatment for FMF. it is usually taken daily as a long-term maintenance therapy to prevent attacks.

3) Corticosteroids: In severe cases of FMF or when NSAIDs and colchicine are not sufficient.

Lifestyle Recommendations:

- Provide lifestyle recommendations for individuals with FMF
- Stress management
- Healthy diet and exercise
- Avoiding triggers

Prognosis:

- Familial Mediterranean Fever (FMF) is a chronic condition with a variable prognosis influenced by factors such as disease severity, treatment effectiveness, presence of complications, and genetic mutations.

Case Studies/Example:

- A 25-year-old male patient presents with a history of recurrent episodes of fever, abdominal pain, and joint inflammation. The episodes occur spontaneously and last for several days, resolving completely between episodes. The patient reports a family history of similar symptoms in his siblings. Physical examination during an episode reveals tenderness in the right lower quadrant of the abdomen and diffuse joint tenderness. Laboratory investigations show elevated acute-phase reactants. What is the most likely diagnosis?

Thank You !