

MEDLEY

Medical AI Ensemble Clinical Decision Report

Case ID:
custom_20250909_065636 Title: Custom Case

Generated: 2025-09-09
06:57

Primary Diagnostic Consensus

| Diagnosis | ICD-10 | Agreement | Confidence | Status |
|---|--------|-----------|------------|---------|
| Familial Mediterranean Fever <i>Evidence: Recurrent fever episodes, Abdominal pain</i> | E85.0 | 0.0% | Very Low | PRIMARY |

Alternative & Minority Diagnoses

| Diagnosis | ICD-10 | Support | Type |
|--|--------|---------|-----------------|
| Periodic Fever Syndrome (other types) <i>Evidence: Recurrent fever episodes</i> | E85.8 | 3.7% | Minority (<10%) |
| Systemic Juvenile Idiopathic Arthritis <i>Evidence: Joint pain and swelling</i> | M08.2 | 3.7% | Minority (<10%) |

| Analysis Overview |
|-------------------------|
| Models Queried: 1 |
| Successful Responses: 1 |
| Consensus Level: High |
| Total Cost: <\$0.01 |

■ ■ Free Model Disclaimer: This analysis was generated using free AI models

Free models may provide suboptimal results. For improved accuracy and reliability, consider using premium models with an API key.

Critical Decision Points & Evidence Synthesis

Critical Decision Points

Key areas where models showed significant divergence in diagnostic or management approach:

Evidence Synthesis & Clinical Correlation

Symptom-Diagnosis Correlation Matrix

| Symptom | FMF | Periodic | Systemic |
|-----------------|--------|----------|----------|
| Recurrent fever | Strong | Moderate | - |
| Abdominal pain | Strong | - | - |
| Joint pain and | - | - | Strong |

Legend: +++ Strong association, ++ Moderate, + Weak, - Not typical

Diagnostic Decision Tree

| Step | Action | If Positive | If Negative |
|------|------------------------|---------------------------------|----------------------|
| 1 | MEFV Genetic Test | → Confirm FMF, Start Colchicine | → Proceed to Step 2 |
| 2 | Extended Genetic Panel | → Alternative periodic fever | → Proceed to Step 3 |
| 3 | Autoimmune Workup | → Consider SLE/Still's | → Consider IBD |
| 4 | Inflammatory Markers | → Monitor progression | → Reassess diagnosis |

Executive Summary

Case Description

A 28-year-old male of Mediterranean descent presents with:

- Recurrent episodes of fever lasting 1-3 days
- Severe abdominal pain during episodes
- Chest pain with breathing difficulties
- Joint pain affecting knees and ankles
- Family history: Father and paternal uncle have similar symptoms
- Episodes occur every 2-3 weeks
- Labs during attack: Elevated CRP, ESR, and WBC
- Between attacks: Completely asymptomatic

Patient reports episodes started in childhood around age 7. Recent genetic testing is pending.

Key Clinical Findings

- Positive family history of similar episodes
- Migratory arthritis affecting large joints
- Severe abdominal pain with peritoneal signs
- Recurrent fever episodes

Primary Recommendations

- Consider Familial Mediterranean Fever among differential diagnoses
- Obtain Genetic testing for MEFV mutations for diagnostic confirmation

Primary Diagnosis Clinical Summaries

■ Key Clinical Findings

| Finding | Supporting Evidence | Clinical Reasoning |
|------------------------------------|-----------------------|--------------------------|
| Recurrent fever episodes | Clinical presentation | Key diagnostic indicator |
| Abdominal pain | Clinical presentation | Key diagnostic indicator |
| Joint pain and swelling | Clinical presentation | Key diagnostic indicator |
| Elevated inflammatory markers | Clinical presentation | Key diagnostic indicator |
| Family history of similar symptoms | Clinical presentation | Key diagnostic indicator |

■ Recommended Tests

| Test Name | Type | Priority | Rationale |
|------------------------------------|------------|----------|-------------------------|
| Genetic testing for MEFV mutations | Laboratory | Urgent | Diagnostic confirmation |
| Serum amyloid A (SAA) levels | Laboratory | Urgent | Diagnostic confirmation |

■ Immediate Management

| Intervention | Category | Urgency | Clinical Reasoning |
|---------------------------------|----------|-----------|-----------------------|
| Initiate colchicine therapy | Medical | Immediate | Critical intervention |
| Assess for signs of amyloidosis | Medical | Immediate | Critical intervention |

■ Medications

| Medication | Dosage | Route/Frequency | Indication |
|------------|--------|-----------------|---|
| Colchicine | 1.2 mg | oral / daily | Prevention of FMF attacks and amyloidosis |

Diagnostic Landscape Analysis

Detailed Diagnostic Analysis

The ensemble analysis identified **Familial Mediterranean Fever** as the primary diagnosis with limited consensus among 1 models.

Detailed Alternative Analysis

| Diagnosis | Support | Key Evidence | Clinical Significance |
|--|---------|--------------|-----------------------|
| Periodic Fever Syndrome (other types) <i>Evidence: Recurrent fever episodes</i> | 3.7% | 1 models | Unlikely |
| Systemic Juvenile Idiopathic Arthritis <i>Evidence: Joint pain and swelling</i> | 3.7% | 1 models | Unlikely |

Minority Opinions

All alternative diagnoses suggested by any models with their clinical rationale:

- **Periodic Fever Syndrome (other types)** (ICD-10: R50.9) - 3.7% agreement (1 models)
Supporting Models: Unknown
- **Systemic Juvenile Idiopathic Arthritis** (ICD-10: Unknown) - 3.7% agreement (1 models)
Supporting Models: Unknown

Additional Diagnoses Considered:

Management Strategies & Clinical Pathways

Immediate Actions Required

| Priority | Action | Rationale | Consensus |
|----------|---------------------------------|---------------------|-----------|
| 1 | Initiate colchicine therapy | Clinical indication | 50% |
| 2 | Assess for signs of amyloidosis | Clinical indication | 50% |

Recommended Diagnostic Tests

| Test | Purpose | Priority | Timing |
|------------------------------------|-------------------------|----------|--------------|
| Genetic testing for MEFV mutations | Diagnostic confirmation | Routine | As indicated |
| Serum amyloid A (SAA) levels | Diagnostic confirmation | Routine | As indicated |

Treatment Recommendations

Treatment recommendations pending diagnostic confirmation.

Model Diversity & Bias Analysis

Model Response Overview & Cost Analysis

| Model | Origin | Tier | Cost | Diagnosis | Training Profile |
|-----------------|--------|---------|---------|------------------------------|------------------|
| deepseek-chat-v | China | Unknown | <\$0.01 | Familial Mediterranean Fever | General |

Total Estimated Cost: <\$0.01

Understanding Training Profiles

Training profiles indicate the type and depth of medical knowledge in each model:

Comprehensive: Extensive medical literature training with broad clinical knowledge

Standard: Standard medical knowledge base with general clinical training

Regional: Region-specific medical training reflecting local practices and conditions

General: Broad general knowledge, not specifically trained on medical literature

Alternative: Alternative medical perspectives and non-conventional approaches

AI Model Bias Analysis

AI model bias analysis is generated during orchestration (Step 2). This comprehensive analysis examines cultural, geographic, and training data biases across the AI models used.

Detailed Model Responses

Complete diagnostic assessments from each model:

1. deepseek-chat-v (China, Released: 2024-12-26)

Primary Diagnosis: Familial Mediterranean Fever (ICD-10: E85.0) - Confidence: 0.9

Differential Diagnoses:

- Periodic Fever Syndrome (other types) (ICD: E85.8) - 0.4
- Systemic Juvenile Idiopathic Arthritis (ICD: M08.2) - 0.3
- Inflammatory Bowel Disease (ICD: K50.9) - 0.25

Key Clinical Findings:

- Mediterranean descent
- Recurrent self-limited febrile episodes (1-3 days)
- Severe abdominal pain
- Chest pain with dyspnea