

# Atypical Diseases: The Great Medical Masqueraders

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## Introduction

The landscape of clinical diagnosis is frequently complicated by the atypical presentation of various diseases, where initial symptoms do not align with classic textbook descriptions. This often leads to delays in diagnosis and appropriate treatment, underscoring a critical need for clinicians to maintain a broad and flexible differential diagnosis. For instance, Creutzfeldt-Jakob disease, a rapidly progressive neurodegenerative condition, has been observed to present with initial symptoms that closely mimic more common neurological disorders. Such atypical features necessitate considering rare diseases even when the clinical picture is not straightforward [1].

Similarly, cutaneous leishmaniasis, a parasitic skin infection, is known for its ability to mimic other prevalent skin conditions. This characteristic makes accurate diagnosis particularly challenging, especially for medical practitioners in non-endemic regions who may not readily consider this specific infection in their diagnostic process [2].

In cardiovascular health, acute myocardial infarction in young adults can present with unusual symptoms, often lacking the classic chest pain typically associated with heart attacks. This highlights the vital importance of maintaining a high index of suspicion and employing a comprehensive diagnostic approach, especially in younger patients whose symptom patterns may deviate significantly from typical adult presentations [3].

Endocrine disorders also exhibit a spectrum of presentations. Primary hyperparathyroidism, for example, has been documented to manifest with non-specific symptoms such as fatigue and joint pain, rather than the more commonly expected kidney stones or bone disease. This illustrates the diverse and often subtle ways this endocrine disorder can appear, making its early recognition quite challenging for clinicians [4].

Systemic lupus erythematosus, famously known as the “great imitator,” offers a compelling example of a disease with varied and often puzzling manifestations. It can involve multiple organ systems with symptoms not immediately recognized as typical for the condition, demanding vigilance for its diverse presentations [5].

The recent global health challenges, such as the COVID-19 pandemic, have further elucidated the vast range of atypical presentations. In pediatric populations, COVID-19 has been shown to extend beyond typical respiratory symptoms, encompassing gastrointestinal, neurological, and dermatological manifestations. This diverse impact of the virus in children necessitates a much wider consideration of potential symptoms during diagnosis [6].

Furthermore, even established diseases like metastatic breast cancer can appear in uncommon sites or with rare symptomatic profiles, which can significantly chal-

lenge typical diagnostic pathways. The ability of widespread cancer to masquerade with unusual signs necessitates a comprehensive evaluation in cases of unexplained symptoms [7].

The interplay between the immune system and mental health offers another area where atypical presentations are crucial. Autoimmune encephalitis, for instance, has been observed where primary symptoms were severe psychiatric disturbances, frequently leading to an initial misdiagnosis as a primary psychiatric disorder. This highlights the intricate link between immune system dysfunction and mental health, emphasizing the need for thorough investigation beyond standard psychiatric assessments [8].

Celiac disease, traditionally associated with gastrointestinal complaints, is increasingly recognized for presenting with symptoms outside this typical domain, including neurological issues, skin rashes, or anemia. This reinforces its understanding as a multi-system disorder with diverse presentations, often requiring a high index of suspicion for timely diagnosis [9].

Finally, tuberculosis, another “great masquerader,” can present in numerous ways beyond the classic lung infection, affecting virtually any organ system with unusual symptoms. This makes its diagnosis particularly challenging, especially in regions where its prevalence might not be immediately considered [10].

The collective evidence from these diverse cases emphasizes the constant need for clinical acumen and adaptability in recognizing disease, regardless of how unexpectedly it might manifest.

## Description

The cases presented here collectively underscore a pervasive challenge in clinical medicine: the diagnosis of diseases manifesting with atypical symptoms. These unusual presentations often mimic more common conditions, thereby complicating diagnosis and delaying appropriate treatment. For instance, neurological disorders like Creutzfeldt-Jakob disease can initially present with symptoms indistinguishable from other prevalent neurological issues, requiring a vigilant approach from clinicians to consider rare diseases despite atypical features [1]. Similarly, autoimmune encephalitis has been documented with severe psychiatric disturbances as its primary symptoms, often leading to misdiagnosis as a purely psychiatric condition. This highlights a crucial intersection of immune system function and mental health, urging thorough investigation beyond initial psychiatric assessments to uncover underlying organic causes [8]. Even celiac disease, primarily known for gastrointestinal complaints, frequently presents with neurological issues, skin rashes, or anemia, reinforcing its identity as a multi-system disorder that demands a high index of suspicion for accurate diagnosis [9].

Beyond neurological conditions, a variety of systemic and infectious diseases also demonstrate this 'great imitator' phenomenon. Systemic lupus erythematosus is a prime example, capable of involving multiple organ systems with a wide array of symptoms not immediately recognizable as typical for the disease, compelling clinicians to exercise heightened vigilance for its diverse appearances [5]. Primary hyperparathyroidism, an endocrine disorder, often manifests with non-specific complaints such as fatigue and joint pain, diverging from its more classic presentations of kidney stones or bone disease. This emphasizes the subtle yet varied ways this condition can appear, making early recognition a significant diagnostic hurdle [4]. In the realm of infectious diseases, cutaneous leishmaniasis frequently mimics other common skin conditions, making diagnosis particularly difficult in areas where the disease is not endemic and therefore not readily considered by local clinicians [2].

The global impact of emerging infections, such as COVID-19, has further broadened our understanding of atypical presentations. Pediatric COVID-19, for example, has been shown to extend far beyond the typical respiratory symptoms, encompassing diverse gastrointestinal, neurological, and dermatological manifestations. This wide spectrum of effects in children underscores the necessity for a comprehensive consideration of symptoms when evaluating pediatric patients during outbreaks [6]. Similarly, tuberculosis, a perennial global health concern, continues to challenge diagnostics with its myriad atypical presentations. It can affect virtually any organ system with unusual symptoms, earning its reputation as a 'great masquerader,' and demanding that clinicians consider it even when classic pulmonary signs are absent, particularly in high-prevalence areas [10].

The challenge of atypical presentations extends even to malignant conditions. Metastatic breast cancer, for instance, can appear in uncommon anatomical sites or manifest with rare symptomatic profiles that deviate significantly from typical diagnostic pathways. This inherent capacity for widespread cancer to masquerade with unusual signs mandates a comprehensive evaluation in cases of unexplained symptoms, guiding clinicians to look beyond the obvious [7]. Even acute myocardial infarction in young adults can defy expectations, presenting with unusual symptoms rather than the classic chest pain. This phenomenon demands a high index of suspicion and a thorough diagnostic approach in younger patient demographics, whose clinical patterns may differ considerably from older populations [3].

In sum, these diverse cases from Creutzfeldt-Jakob disease to tuberculosis, highlight a unified theme: the imperative for clinical adaptability and broad diagnostic reasoning. The ability of diseases to present atypically, mimicking other conditions or appearing in unusual anatomical locations, significantly complicates medical practice. Effective management relies heavily on clinicians' willingness to consider a wide range of possibilities, even when initial symptoms are subtle or misleading. This continuous challenge reinforces the need for ongoing medical education and a low threshold for comprehensive investigation in the face of perplexing patient presentations.

## Conclusion

These reports collectively illustrate the widespread phenomenon of atypical disease presentations across various medical disciplines. Conditions such as Creutzfeldt-Jakob disease, a rapidly progressive neurodegenerative condition, often presents with initial symptoms that closely mimic more common neurological disorders, leading to diagnostic delays. Similarly, cutaneous leishmaniasis, a parasitic skin infection, frequently masquerades as other prevalent skin conditions, complicating diagnosis, especially in non-endemic regions. In cardiovascular health, acute myocardial infarction in young adults can manifest with unusual symptoms, often lacking the classic chest pain, necessitating a high index of sus-

picion. Endocrine disorders like primary hyperparathyroidism may present with non-specific complaints such as fatigue and joint pain, rather than typical kidney stones or bone disease.

Systemic lupus erythematosus, known as a 'great imitator,' often involves multiple organ systems with symptoms not immediately recognized as characteristic, demanding vigilant observation. Pediatric COVID-19 has also shown diverse atypical presentations, extending beyond respiratory issues to include gastrointestinal, neurological, and dermatological manifestations. Furthermore, even advanced conditions like metastatic breast cancer can appear in uncommon sites or with rare symptomatic profiles, challenging conventional diagnostic pathways. Autoimmune encephalitis has been noted for presenting primarily with severe psychiatric disturbances, leading to initial misdiagnosis as a primary mental health disorder and highlighting the immune-mental health connection. Celiac disease, too, frequently manifests beyond typical gastrointestinal complaints, impacting neurological systems or causing skin rashes and anemia. Finally, tuberculosis retains its reputation as a "great masquerader," capable of affecting virtually any organ system with a wide array of unusual symptoms, making its diagnosis a persistent challenge. The recurring theme across all these cases underscores the critical need for clinicians to maintain a high index of suspicion, adopt a broad differential diagnosis, and pursue comprehensive diagnostic evaluations to ensure timely and accurate patient care, navigating the complex and diverse ways illnesses can manifest.

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## Conflict of Interest

None.

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