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PSITTACOSIS - EPIDEMIOLOGY, DIAGNOSIS, TREATMENT, COMPLICATIONS AND PUBLIC HEALTH IMPLICATIONS

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Abstract: Psittacosis is a zoonotic infection caused by Chlamydia psittaci, primarily transmitted through contact with infected birds or inhalation of contaminated aerosols. Although recognized as a rare cause of atypical pneumonia, increasing evidence suggests that psittacosis is underdiagnosed because of its nonspecific clinical presentation and limited diagnostic awareness. The aim of this review was to summarize current evidence regarding the epidemiology, clinical manifestations, diagnosis, treatment, and public health importance of psittacosis. A narrative literature review was performed using scientific databases, including PubMed, with emphasis on peer-reviewed studies, outbreak investigations, and recent reports on human psittacosis. Special attention was given to advances in molecular diagnostic methods and atypical clinical presentations. The reviewed studies demonstrated that psittacosis has a broad clinical spectrum, ranging from mild influenza-like illness to severe atypical pneumonia and systemic involvement. Diagnosis remains challenging due to the absence of specific symptoms and the limited sensitivity of conventional serological tests. Recent developments in polymerase chain reaction (PCR)-based diagnostics have improved detection and suggest a higher prevalence than previously estimated. Doxycycline remains the treatment of choice, particularly when initiated early, while delayed diagnosis may lead to severe complications, including respiratory failure and multi-organ dysfunction. In conclusion, psittacosis remains an underestimated infectious disease requiring improved clinical awareness, expanded molecular testing, and enhanced surveillance strategies to ensure timely diagnosis and effective prevention.

Keywords: Chlamydia psittaci, ornithosis, parrots, Medical history, human-to-human transmission, mNGS

Introduction

Psittacosis is a zoonotic illness caused by Chlamydia psittaci, also referred to as ornitosis or parrot fever. This bacterium primarily affects birds, whether they are domesticated or wild, and it was initially believed to be of viral origin.(1-3)

Chlamydia psittaci is a gram-negative intracellular bacteria that belongs to the family Chlamydiaceae and order Chlamydiales .(4, 5). C. psittaci is divided into 15 main genotypes. (6). Seven of them were isolated fron birds and can infect humans: A (parrots), B (pigeons), C (ducks and geese), D (turkeys), E (multiple hosts), F (parrots and turkeys), and E/B (parrots and ducks), others were found in mammals- M56 and WC and the rest from birds: Mat116, 6N, 1V, YP84, CPX0308, R54. (6)

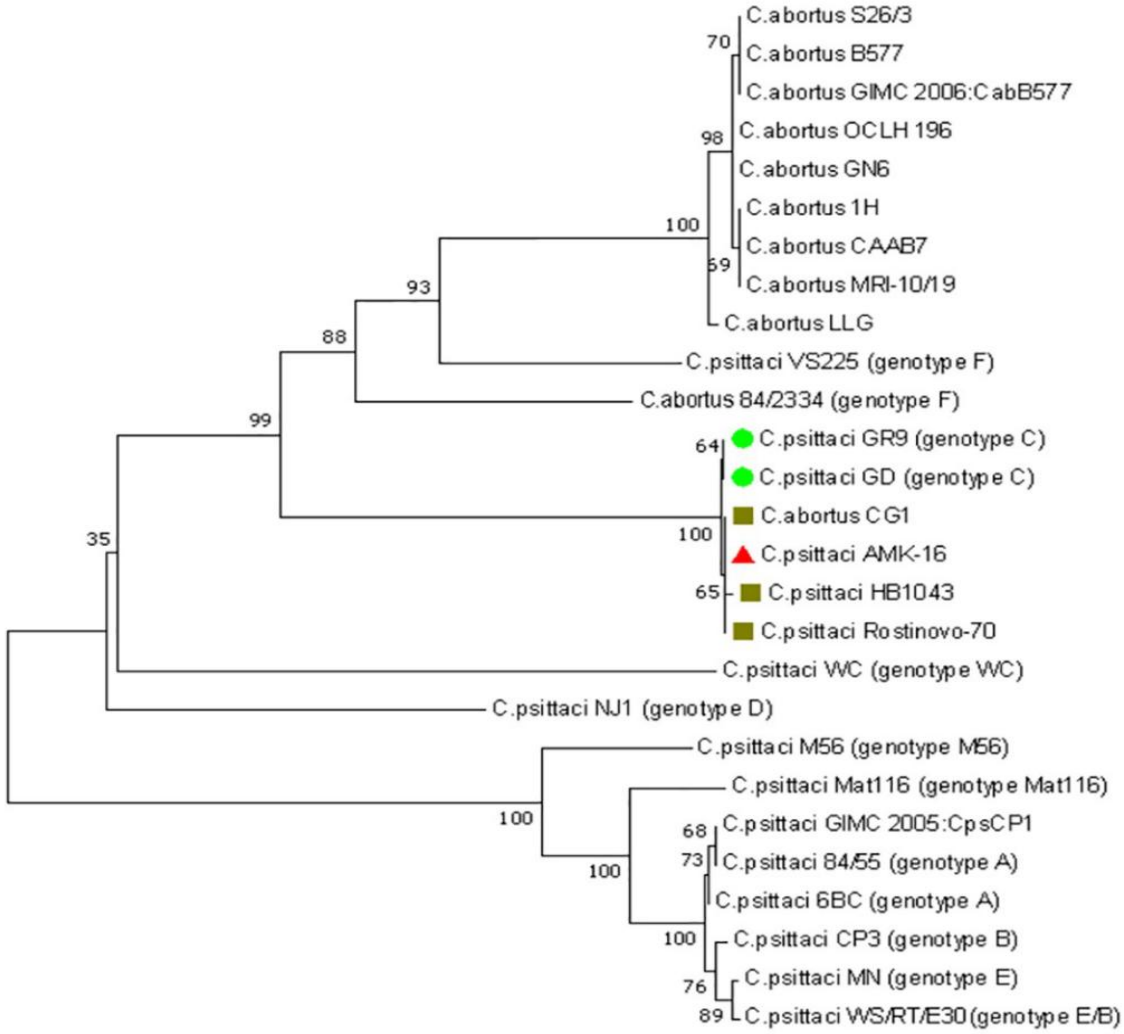

Figure 1 Phylogenetic tree based on the ompA gene sequences of the C. psittaci AMK-16 and the sequences of the ompA genes of the C. psittaci reference genotypes A—F.(7)

Order	Family	Genera	Species	Typical Host	Previous Taxonomy
Chlamydiales	Chlamydiaceae	*Chlamydophila*	*C abortus*	Mammals	*Chlamydia psittaci*
			C psittaci	Birds	
			C felis	Cats	
			C caviae	Guinea pigs	
			C pecorum	Mammals	*C pecorum*
			C pneumoniae	Humans	*C pneumoniae*
		Chlamydia	*C trachomatis*	People	*C trachomatis*
			C suis	Swine	
			C muridarum	Mice, hamsters	
	Parachlamydiaceae		*P acanthomaebae*		
	Waddiaceae		*W chondrophila*		
	Simkaniaceae		*S negevensis*		

Figure 2. Taxonomy of the Chlamydiales order (8)

The word psittacosis was derived from the Greek word for parrot-*psittakos,*; however, the first description of this illness was in 1879 in the medical literature (1).

The term ornithosis was invented by Dr. Karl Friedrich Meyer who is known for his work with Chlamydial bacterias (9).

The incubation period varies from 7 to 40 days, with symptoms ranging in severity, from asymptomatic to life-threatening disease (10).

The bacteria spreads throughout the host body and is able to avoid pro-inflammatory mediators's action (11).

Material And Methods

Study design and objectives

The present article aims to highlight the severity of Chlamydia psittaci infection and to increase awareness among medical professionals and poultry farmers regarding its public health relevance.

A narrative review methodology was adopted in order to synthesize and critically evaluate the available literature, with particular emphasis on campaign design, implementation strategies, target populations, financial support mechanisms, communication approaches, and ongoing efforts toward vaccine development for human use.

The objectives of this review were:

To highlight the severity of the disease

To help medical staff make a correct diagnosis, in the shortest time

To help veterinarians and the population recognize the symptoms of animal diseases and take the necessary measures to stop the spread of the

pathogen

It should be noted that it can be transmitted from person to person, even though it was believed impossible

The authorities should initiate extensive educational initiatives across different media platforms to spread reliable knowledge regarding the prevention, treatment, and early recognition of psittacosis

Literature Search Strategy

The literature search was performed using major international biomedical databases, including PubMed and Google Scholar. A combination of keywords was applied both individually and in various combinations, using Boolean operators (AND, OR) to improve search sensitivity and specificity. The search strategy included terms related to *Chlamydia psittaci*, psittacosis, transmission routes, diagnosis, treatment, and public health interventions.

Additional sources of evidence were retrieved from peer-reviewed articles, reports issued by the European Union, and publications from the World Health Organization. These sources were used to obtain comprehensive information regarding disease transmission dynamics, clinical history taking, diagnostic approaches, and therapeutic management.

Inclusion criteria were defined as studies providing quantitative and/or qualitative data on *C. psittaci* infection, disease severity, epidemiology, or control measures. Exclusion criteria included non-empirical publications, opinion-based articles, duplicates, and studies lacking relevant clinical or epidemiological data.

Study selection was conducted in two stages: an initial screening based on titles and abstracts, followed by full-text assessment of eligible publications. Data were extracted and synthesized narratively due to heterogeneity in study designs and outcomes.

A comparative analytical approach was applied to identify key differences in epidemiological patterns, public health responses, and implementation challenges. The findings are intended to support improved prevention strategies and to inform future public health planning at both national and international levels.

Study Selection

Published articles studying how Psittacosis can affect humans after contact with infected animals, particularly pigeons, were reviewed. Special emphasis was placed on research examining how human body is affected, wich analyses can be used, what is the recommended treatment. Priority was given to peer-reviewed articles indexed in PubMed and written in English.

Results

Epidemiology of psittacosis, source of infection, transmission routes and

biphasic developmental cycle

It is transmitted from birds to humans, and it can manifest itself from subclinical manifestations, influenza-like illness to atypical pneumonia or fulminant psittacosis with multi-organ failure, even death. (1),(12)

The individuals most impacted include those who work in poultry, veterinarians, and those who own pet birds, typically parrots or pigeons. Birds that are infected could display clinical signs or remain asymptomatic, yet they can still release the bacteria through respiratory droplets or feces, which, when dried, can release contaminated particles into the air that may be inhaled by humans. Previously, it was believed that transmission between humans was not possible; however, there have been instances of reported clusters(4), (10)

Not all patients who were investigated had a definite contact history with poultry and birds. (13)

Transmission occurs through direct interaction with vulnerable animals, exposure to nasal secretions from birds, infectious feces from birds, and inhalation of feather dust. Birds raised for food and companion birds like parrots, cockatiels, macaws, and parakeets are the primary species affected by C psittaci; however, it has been found that certain non-bird species, including cattle, sheep, and pigs, do not transmit this illness to humans. (1, 10, 14),

In some cases, Cps infection can be transmitted through the ingestion of uncooked meat and offal from infected pigeons,and, according to the literature, enteric infection with C. psittaci has been reported only in animals but rarely, it was diagnosed to human with psittacosis.(14)

Another interesting case of Human-to-human transmission of C. psittaci infection is from a pacient with severe pneumonia who was admitted to the intensive care unit (ICU)(he have had contact with birds) and an ICU worker who performed endotracheal intubation on the first pacient.(15)

In a cluster of psittacosis cases in which all the patients lived together, it is necessary to estimate whether it is a human-to-human transmission of psittacosis and, when all of them have fever of unknown origin, it is recommended to detect a rare agent (like psittacosis)(16).

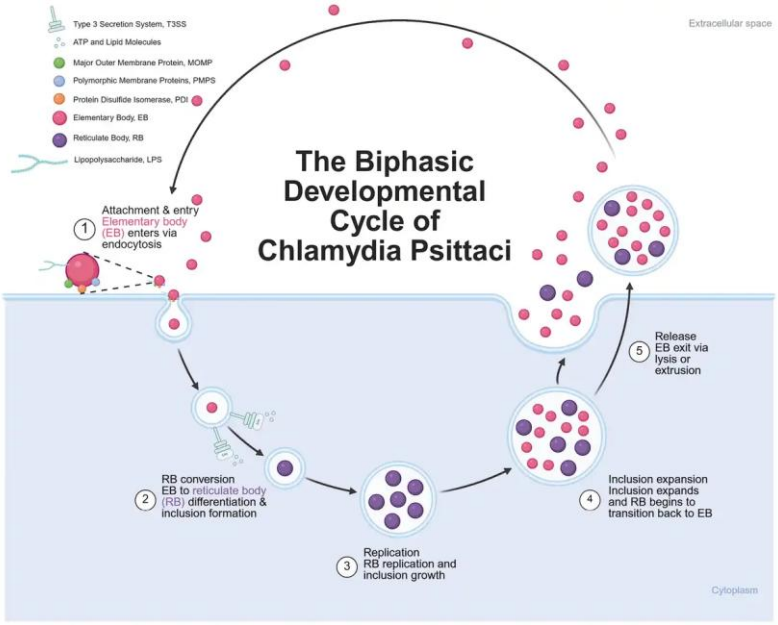

Figure 3: The biphasic developmental cycle of Chlamydia Psittaci(17)

Clinical Manifestations

The clinical manifestation of psittacosis in humans may include fever, malaise, myalgia, headache, and chills; cough is characteristically scant or dry and may be absent. (10), (18), (19)

Psittacosis can have extrapulmonary manifestations wich can include myocarditis, endocarditis, hepatitis or encephalitis.(20)

It may also influence the kidneys, leading to sudden kidney failure and interstitial nephritis, impacting the skin to produce rose rash, polycyclic erythema, nodular erythema, urticaria, or Horder's spots. (10) Infrequently, an infection from C. psittaci can advance to leukopenia, hemolytic anemia, or widespread intravascular coagulation.(21)

Severe cases may involve respiratory or circulatory failure, psychiatric symptoms, acute renal failure or even death.(10,22)

Some of the symptoms are nonspecific and can mimic other diseases, like COVID-19. (23)

Some onset simptoms are unusually for psittacosis pneumonia, such as sudden binaural hearing loss.(Fig. 5 c-d) (24)

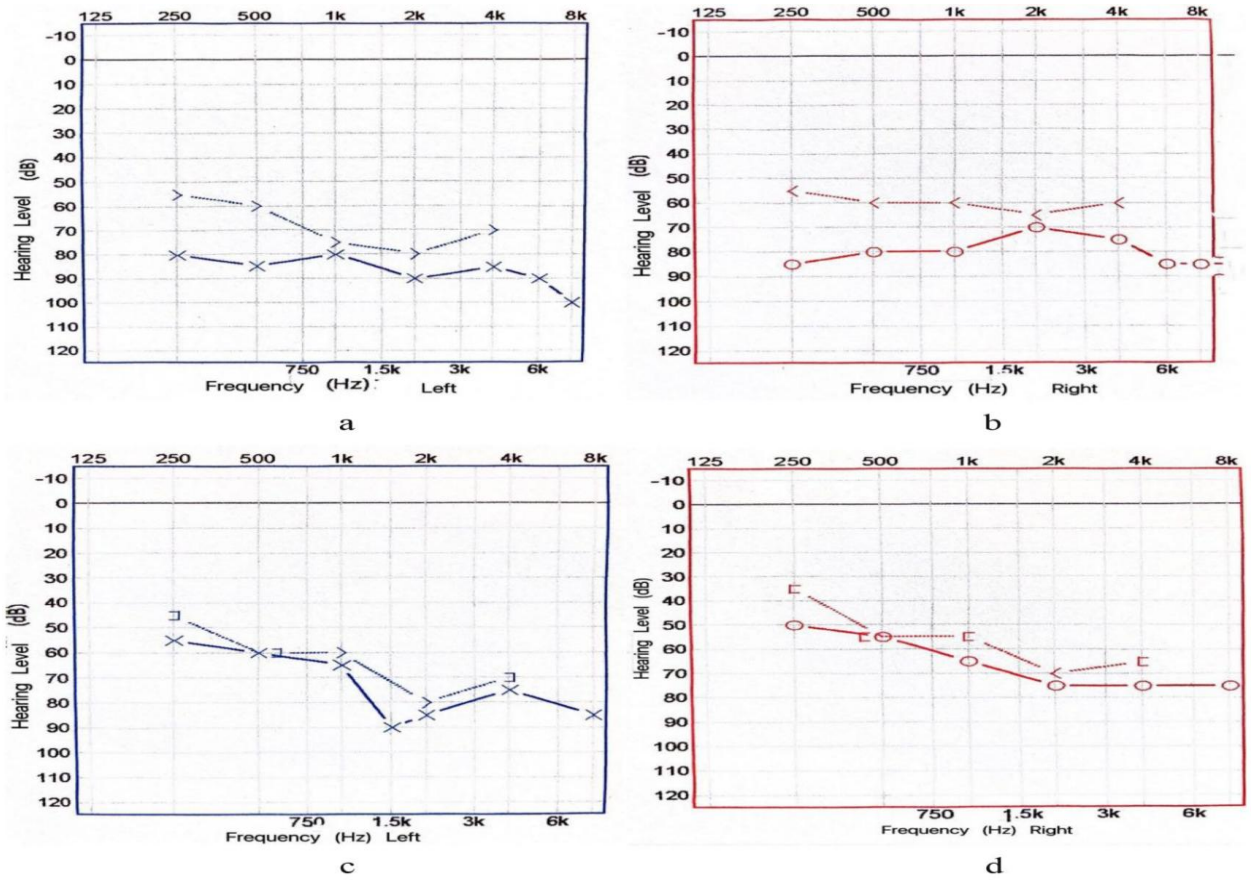

Figure 4: Pure tone audiogram before treatment (a, b). Pure tone audiogram after treatment (c, d) (24)

Due to the fact that the signs of psittacosis resemble those of various respiratory diseases, it is not frequently documented. This emphasizes the necessity for healthcare professionals to be aware of a patient's history of interaction with birds, as this can significantly raise the likelihood of identifying this infection (18).

After breathing in bacteria present in expelled materials, feces, or even particles from eathers, C. psittaci attaches itself to the mucus membrane of the upper respiratory tract.Frequently, people might not exhibit any signs of illness. (1)

The bacteria multiply within the cells of the alveolar epithelium, as well as within the epithelial cells of the bronchioles, bronchi, and trachea.This can result in the destruction of the affected cells, along with the release of the pathogen, its toxins, and products from cell decay, wich can enter the bloodstream and result in toxemia and sensitization. (28)

C. psittaci can be identified in the blood, mitral valve tissue, and aortic valve. (21)

In severe cases, hematogenous drift of the pathogen in the parenchymal organs, central nervous system, myocardium etc., is possible (can cause Endocarditis, Encephalitis, etc.) (25)

Due to the fact that the symptoms are common with other types of diseases and the use of traditional detection methods, the diagnosis may be

delayed or incorrect. (20, 26).

Complications

Chlamydia psittaci can lead to unusual pneumonia (either mono or bilateral), acute respiratory distress syndrome, liver inflammation, kidney disease, as well as widespread abnormalities in blood clotting, severe infection complications, failure of multiple organs, and even unconsciousness (European Commission 2002) (28).

This disease can be complicated with many others diseases, like Lower Extremity Atherosclerotic Occlusive Disease .(27)

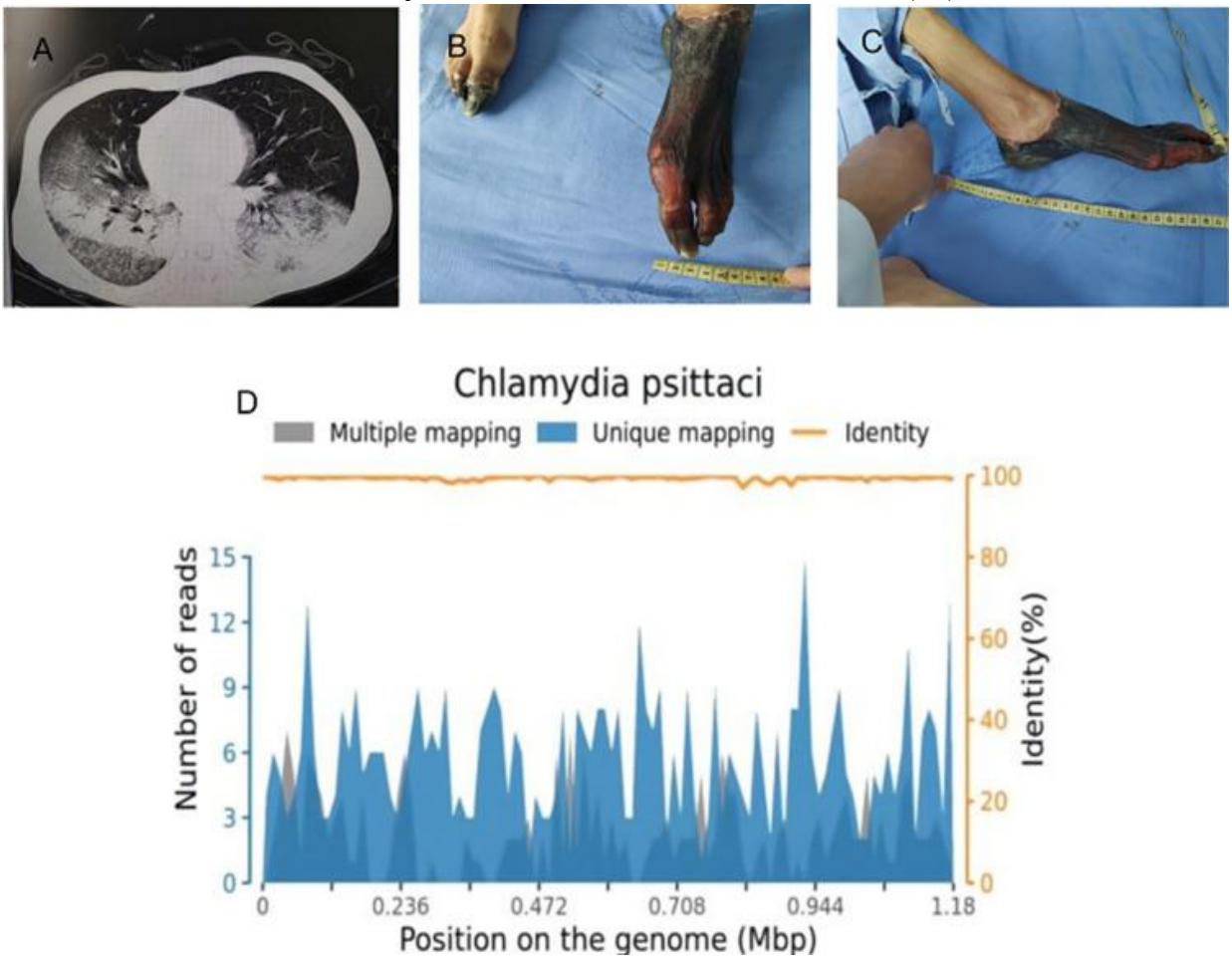

Figure 5: (A) Chest computed tomography (CT) revealed diffuse, bilateral, and interstitial infiltrates; (B and C) acrocyanosis of both lower extremities; (D) the result of mNGS of BALF suggested C. psittaci infection.(27)

Other complications can be gestational psittacosis (28), meningitis, (29), acute pancreatitis.(26) or even Rhabdomyolysis which is rare and the main clinical manifestations are fever, fatigue, myalgia and tea-colored urine.(30)

Some other severe syndromes can be associated with psittacosis, such as Guillain-Barré syndrome (31) or motor neuron disease .(32)

Electromyography showed neurogenic peripheral neuropathy in the upper and lower limbs (predominantly demyelination damage), as well as

abnormal F waves in the limbs (31).

Laboratory And Imaging Diagnostics: Challenges And Perspectives

Diagnostic techniques are constantly changed and updated.(4) According to relevant retrospective studies, psittacine pneumonia cannot be diagnosed only by laboratory tests or chest CT alone (4).

Psittacosis can be diagnosed by a few methods, such as serology, isolation of Chlamydia psittaci, and molecular detection (19).

Most used tests include pathogenic cultures, serological testing, and PCR.(13)

Techniques based on PCR and serological assessments exist, but they may result in false negative outcomes; Metagenomic next-generation sequencing (mNGS) has gained popularity for diagnosing infectious illnesses, particularly when conventional methods are constrained (24).

The laboratory tests are often non-specific because of lack of symptoms (25).

Serology includes pathogen isolation, enzyme-linked immunosorbent assay (ELISA), specific complement fixation experiments, and MIF (4).

Laboratory identification necessitates fulfilling at least one of these three conditions:

(1) The presence of IgM antibodies targeting C. psittaci with a MIF titre of 1:16 or above; (17)

(2) A fourfold or larger rise in antibody titre between serum samples taken two weeks apart, utilizing a micro-immunofluorescence (MIF) or complement fixation test (CFT) (17)

(3) The successful isolation of Chlamydia psittaci from respiratory secretions (17)

Polymerase chain reaction (PCR) is a more specific and more fast diagnostic test, which is available in specialized diagnostic laboratories (19).

Psittacosis frequently goes undetected or is incorrectly identified, often being treated unusual form of pmneumonia due to its vague symptoms and the shortcomings of present testing techniques. (17)

Currently, conventional diagnostic approaches for psittacosis include cultures, serology, and PCR; however, culturing is often labor-intensive and necessitates biosafety level 3 laboratories, which is why it is not commonly carried out in many testing facilities. (12)

In experiments conducted in laboratories, several outcomes were documented in research, which include:

(i)Typical white blood cell figurs, elevated neutrophil ratios and diminished lymphocyte ratios (10)

(ii) inflammation markers like C-reactive protein and erythrocyte sedimentation rate showed significant increases, whereas procalcitonin exhibited a mild rise (12)

(iii) certain patients revealed elevated levels of myocardial enzymes

(lactate dehydrogenase and myoglobin), increased liver enzymes (alanine aminotransferase and aspartate aminotransferase), along with the presence of hyponatremia (10).

Anyway, the detection time is to long and because of this early diagnosis isn't possible so the targeted antibiotic therapy isn't administered on time. (4)

Over the time, qPCR technology has been continuously improving, and it has been demonstrated to have the advantages of high specificity and good reproducibility (4).

Micro-immunofluorescence test (MIF) is considered to be the gold serological test method to diagnose psittacosis in humans and it is established using MIF with paired sera. (10, 25, 33)

These tests can be run on respiratory specimens, blood, and tissues but MIF may present difficulties in interpreting the results and also may occur false positive results. (10, 25).

This diagnostic approach encounters challenges such as restrictions in the promptness and precision of results, resulting in postponed identification of causes and delays in providing appropriate treatment. Furthermore, it is constrained by insufficient sensitivity (34).

Metagenomic next-generation sequencing, often referred to an mNGS, has emerged as a high-throughput method due to its ability to simultaneously identify various groups of pathogens, including bacteria(both Gram –positive and Gram-negative, as well as atypical), viruses, fungi and parasites, with high accuracy and enhanced sensitivity.(10, 13, 19, 34).

Because of increasing applications of mNGS in diagnosis, the number of reported cases of C. *psittaci* pneumonia has increased gradually (10).

Moreover, mNGS can greatly enhance the identification rate of pathogens for uncommon infectious illnesses in challenging scenarios, eliminating the requirement for specific amplification.(6, 19, 13)

In several patients, elevated levels of creatine kinase, C-reactive protein, and lactic Dehydrogenase were noted, while significant decreases in albumin levels were recorded. These individuals showed substantial improvement after receiving treatment with either tetracycline or quinolone antibiotics. (35).

In cases of chest CT scans revealing untypical indicators, it has been shown that the abnormality was originally situated in the upper lobe and gradually extended to include infiltrations in multiple lobes or both sides. (4)

The key alterations observed in lung imaging for Chlamydia psittaci pneumonia include varying levels of exudation and consolidation, along with the presence of ground glass opacities accompanied by air bronchogram signs (12, 43).

As the condition of pneumonia advanced, several lobes became affected. In certain patients, a minor accumulation of pleural fluid was noted, whereas lymph node enlargement was infrequently seen (12, 43).

The presence of both parenchymal and interstitial lesions represented a

relatively distinctive radiological characteristic. (43)

Certain radiological features might be specific to Psittacosis pneumoniae:

• Areas of consolidation are found in the basal and central locations (28)

• There is an increase in the thickness of the peribranchial interstitium (28)

• Infiltrates tend to migrate to other lobes in 80% of cases (28)

• The occurrence of atelectasis or pleural effusions is uncommon and typically minor (28)

• The extent of pulmonary consolidation is linked to the degree of illness severity (28)

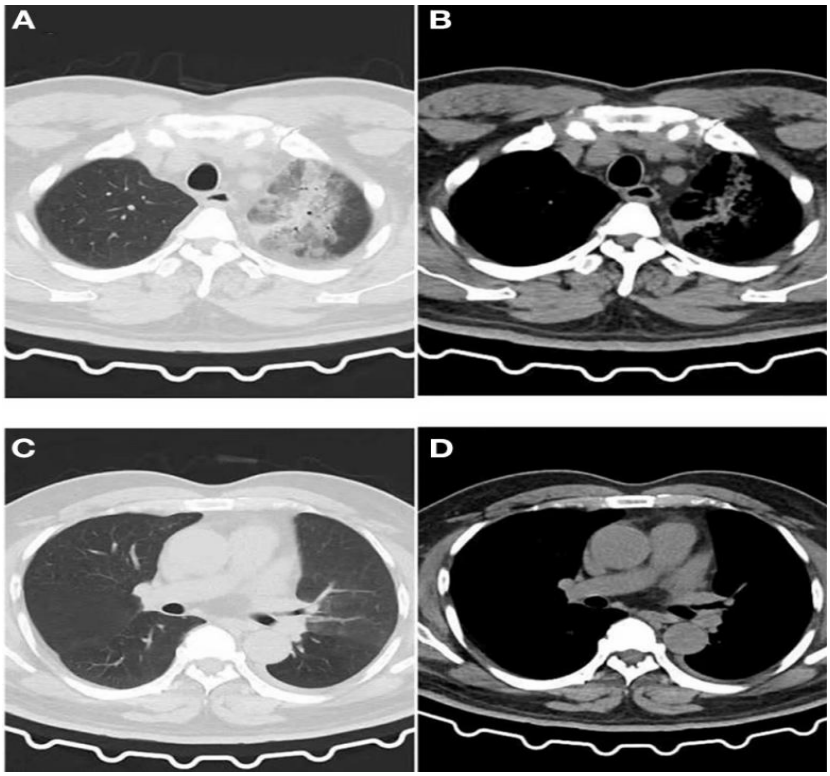

Figure 6:CT revealed exudative lesions on the left upper lung field at the onset of disease (36)

Therapy

C. psittaci, which results in pneumonia due to its vague symptoms, diagnosis is challenging. (38)

The illness might worsen and have a negative outlook if antibiotics are not changed right away. (24, 40)

The patient's condition may deteriorate if they do not receive the proper medical attention in a timely manner. Because of this, the 'rate-limiting' factor for prompt treatment of psittacosis is microbiological diagnosis (10).

Tetracycline antibiotics are the suggested first-line therapy for adult psittacosis infection. (10, 17, 25, 29)

Until now, there have been no guidelines for treating psittacosis in children, but it is reasonable to treat it with oral tetracyclines for 5–10 days

(especially doxycycline). (25)

Serious instances of psittacosis require intravenous administration of doxycycline, whereas less severe forms may be managed with oral doxycycline or minocycline. (25, 27)

Generally, following the administration of tetracycline antibiotics, patient typically show visible signs of improvement in their condition within 24 to 48 hours, alongside a decline in body temperature. The duration of the treatment should be no less than 14 days, with a recommendation of extending it to 21 days when possible. If the therapy is inadequate, the disease may relapse. (25, 27, 37)

When pacients are unable to take tetracyclines, macrolide antibiotics like azithromycin can be utilized. Other antibiotics that have been effective against C. psittaci include fluoroquinolones, such as moxifloxacin and levofloxacin.(25, 27)

Fluoroquinolones are frequently the antibiotics of choice for community-acquired pneumonia; therefore, a significant number of patients receive fluoroquinolones as their initial treatment. (10)

Omadacycline is another antibiotic that is effective for treating pneumonia caused by Chlamydia psittaci and is generally well accepted by patients. (38, 21)

Treating with beta-amides has proven to be less effective and is causing the advancement of the disease. (17)

The use of tetracyclines alongside macrolides or quinolones can show positive results in patients who are severely affected, particularly in those facing life-threatening circumstances. (29)

In certain situations, corticosteroid treatment was started using prednisone. (13)

Researchers have sought alternative methods to address avian illnesses using non- toxic, completely natural products. (12)

In recent studies, it has been shown that *Azadirecta indica*, often known as neem, have many therapeutic properties, which may include: include immunomodulatory, anti-inflammatory, antiviral and antibacterial properties, specially against *C. psittaci* .(11)

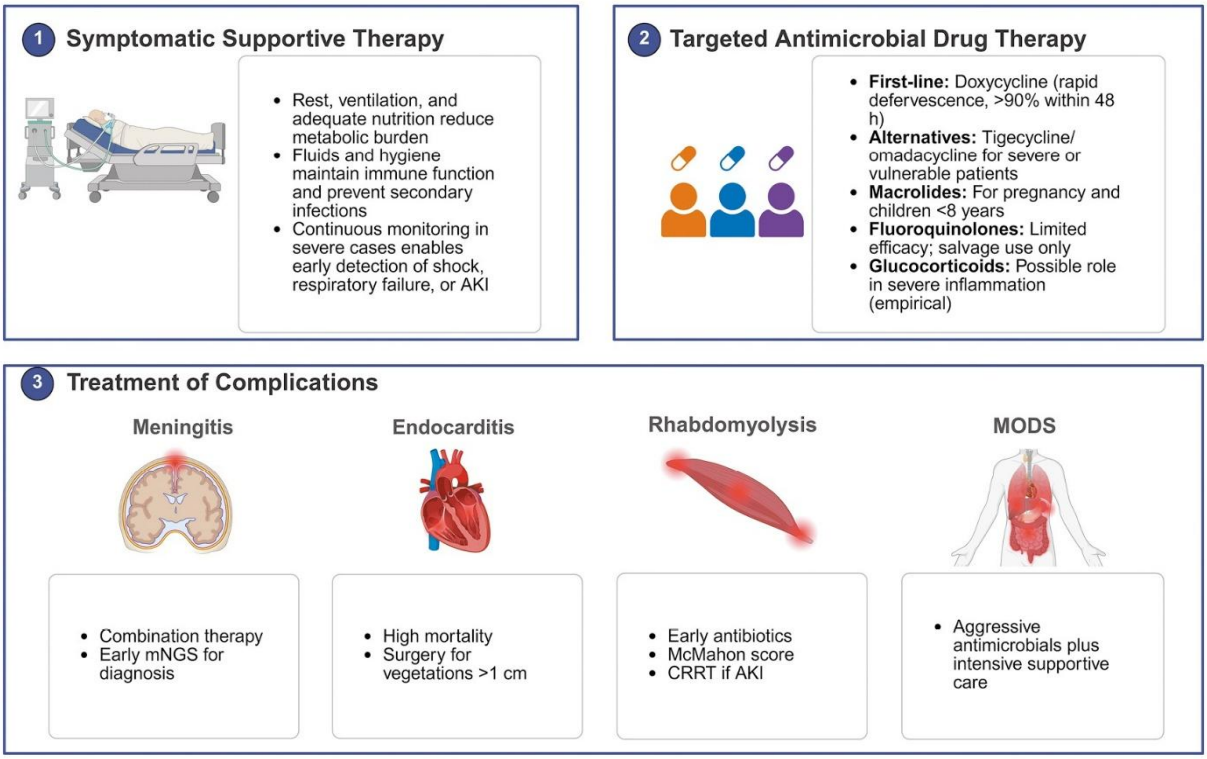

Figure 7: Treatment strategies for psittacosis. (17)49

Prognosis And Prevention

The individuals who are most impacted are those between the ages of 30 and 60, as well as those with compromised immune systems. Various elements, such as a lack of comprehensive epidemiological data, limited awareness among doctors, or symptoms that resemble those of other illnesses, may result in incorrect diagnoses or delays in diagnosis, which can accelerate the progression of the disease and lead to increased fatalities. (34), (10).

In areas where contact with birds is common, the prevalence may increase to 10-15% at times. (10)

Generally, pneumonia caused by Chlamydia psittaci has favorable outcomes, but if patients do not receive appropriate treatment quickly, the death rate could escalate to 10-20%. (10)

Psittacosis has historically been both underreported and underdiagnosed; however advancements in techniques have allowed for more accurate diagnoses (identified through tNGS and mNGS) and effective treatments. (39)

It is known that there was an outbreak of psittacosis in 1929-1930, referred to as the Great Parrot Fever Pandemic, during which nearly 800 individuals became infected, resulting in approximately 100 deaths. (10)

C. psittaci has led to random yet recurrent outbreaks of deadly community-acquired pneumonia on a global scale, posing a significant risk to public health (40).

Numerous studies in Europe have indicated that feral pigeons serve as

one of the primary reservoirs for C. psittaci; the prevalence rate here is notably high, reaching 26%.(10) Research in Australia has identified a substantial occurrence of psittacosis during the colder months (March to May), while other studies conducted in the Netherlands observed a rise in psittacosis cases during the spring and summer. Thus, further investigation into the relationship between the onset of psittacosis and seasonal changes is necessary (10).

Ensuring a tidy living space for birds is beneficial (including sanitized food and water containers). Additionally, enhancing availability of high-quality medical services for individuals with psittacosis is essential, particularly in less populated regions (49).

The authorities ought to initiate extensive educational initiatives across different media platforms to spread reliable knowledge regarding the prevention, treatment, and early recognition of psittacosis (49).

The rate of misdiagnosis is high as 50% because C psittaci has not been included in routine clinical laboratory screening and reported cases of ornitosis are increasing every year (4).

Psittacine pneumonia can have extremely high mortality rates (4).

To avoid contracting psittacosis, individuals ought to refrain from engaging with ill birds (which may exhibit concerning signs such as lethargy, diminished appetite, feather loss, and diarrhea) (42).

If avoiding these interactions is not feasible, bird breeders or pet bird owners should don masks and gloves upon noticing any illness indicators and ensure thorough hand hygiene following their contact with the birds (42).

It is recommended not to mix birds from different sources and to test them before selling (21).

It is advisable to avoid combining birds from various origins and to conduct testing before offering them for sale (21).

To diminish the bacterium's presence, a detergent disinfectant may be applied to the feathers of deceased birds (10).

Research has shown that C psittaci is vulnerable to numerous cleaning agents, sanitizers, elevated temperature (the agent can perish at 56°C in 5 minutes) or to ultraviolet light (for 3 minutes) (10).

Additionally, it is recommended that all poultry be thoroughly cooked prior to eating to avert infection with C. psittaci (20).

Various factors can influence poultry production, including high rates of mortality and illness in chickens (including deaths among chicks), substantial expenses for medication, inadequate farm sanitation, and insufficient scientific knowledge among poultry farmers. (10)

Till now, there are no available vaccines against C. psittaci for humans (21, 43).

Studies showed that human-to-human transmission is rare, that’s why we should focus on animal-to-human transmission and C. psittaci should be included in veterinary legal quarantine (44).

Carrier birds who trade wildlife species (illegal or not) are a source of

infection for humans and can increases the possible transmission of infectious agents (45, 46).

Disussion

Psittacosis represents a paradigmatic example of an underrecognized zoonotic infection whose clinical and epidemiological relevance is likely underestimated in contemporary medical practice. Despite being a well-described entity caused by Chlamydia psittaci, its true burden remains obscured by diagnostic challenges, limited surveillance, and frequent misclassification as other forms of atypical pneumonia (46).

The foundational case series by Yung AP and Grayson ML (1988) demonstrated that the clinical spectrum of psittacosis is remarkably heterogeneous, ranging from mild febrile illness to severe systemic disease, with respiratory manifestations occasionally absent. (30) This variability complicates early recognition and contributes significantly to underdiagnosis (30).

From a pathophysiological perspective, Chlamydia psittaci exhibits intracellular survival mechanisms. Beeckman DS and Vanrompay D (2009) describe immune evasion strategies contributing to systemic dissemination and extrapulmonary manifestations. Diagnostic limitations remain significant. (40)

Disease in humans caused by three important modes of transmission:(9)

1) inhalation
2) direct contact with infected birds and handling of plumage
3) ingestion of uncooked meat and offal from infected pigeons (9)
4) human-to –human transmission.

In humans, chlamydiosis affects not only the reproductive system but also the respiratory tract, where it can lead to interstitial pneumonia. (9)

In humans, symptoms include fever, chills, headache, muscle pain, and general malaise, which may occur with or without respiratory manifestations. The infection can also affect other organs, potentially leading to endocarditis, myocarditis, hepatitis, arthritis, conjunctivitis, and encephalitis (9).

Laboratory diagnosis is typically performed using microimmunofluorescence (MIF), complement fixation tests (CFT), and PCR techniques. In the past, paired serum samples were commonly tested for *Chlamydia* antibodies using CFT; however, seronegative results were also observed in hospitalized patients (9).

PCR enabled the rapid detection of infection in humans and allowed identification of the source through genotyping; however, its main limitation is its high sensitivity only during the acute phase of the disease. In practice, confirming chlamydiosis requires a combination of serological testing and antigen detection methods, such as PCR (9).

Recent studies have demonstrated the effectiveness of treatment administered for 21–30 days, while also recommending PCR retesting 2–4 weeks after completion of therapy (9).

For persistent infections, experimental models suggest that tetracycline or rifampicin may be effective treatment options. Residues of oxytetracycline and doxycycline have been shown to persist in eggs from laying hens for 9 and 26 days, respectively, after 7 days of administration at a concentration of 0.5 g/L (9).

Conclusions

Psittacosis remans an important yet underrecognized zoonotic disease that continues to challenge both clinical practice and public health systems. Although the causative agent, *Chlamydia psittaci*, and its transmission pathways are well known, the disease is frequently overlooked because of its nonspecific clinical presentation, which can range from mild respiratory symptoms to severe systemic complications. Recent molecular epidemiology studies suggest that psittacosis is more widespread than previously believed, with PCR-based diagnostics revealing numerous undetected cases that were initially classified as atypical community-acquired pneumonia.

Accurate diagnosis requires a combination of epidemiological assessment and advanced molecular testing. Traditional serological methods are limited by delayed antibody production, cross-reactivity, and the need for paired serum samples, whereas PCR offers greater sensitivity and specificity, particularly during the early stages of infection. Early recognition and prompt treatment with tetracyclines, especially doxycycline, are associated with rapid clinical improvement, while delayed diagnosis may lead to severe complications such as respiratory failure, multiorgan dysfunction, or death.

The public health impact of psittacosis highlights the necessity of a One Health approach integrating human, animal, and environmental health measures. Surveillance of avian populations, improved biosecurity in poultry and pet bird industries, public awareness campaigns, and standardized reporting systems are essential for limiting zoonotic transmission. Continued research into transmission mechanisms, asymptomatic carriers, and strain variability is crucial to improving surveillance, guiding prevention strategies, and reducing the overall burden of this neglected infectious disease.

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