

Maternal and neonatal mpox in Nigeria: a multicentre case series highlighting diagnostic challenges, transmission pathways, and neonatal outcomes

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Case Report

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Abstract

Background

Mpox during pregnancy and the neonatal period is uncommon, and evidence regarding maternal clinical presentation, neonatal acquisition, and pregnancy outcomes remains limited, particularly in endemic African settings. Data on maternal–neonatal pairs infected with Clade IIb monkeypox virus (MPXV) are especially scarce. We describe the clinical characteristics, diagnostic challenges, potential transmission pathways, and outcomes of three mother–infant pairs managed at hospitals in southern Nigeria.

Case presentation

We conducted a retrospective multicentre case series involving three mothers with probable mpox during late pregnancy and their three neonates with laboratory-confirmed mpox managed at two tertiary teaching hospitals and one private specialist hospital in southern Nigeria. All mothers developed acute febrile illnesses during the third trimester or immediately before delivery. Two presented with characteristic vesiculopustular eruptions, whereas one experienced a self-limiting febrile illness without recognised cutaneous lesions. None underwent laboratory testing during pregnancy and were retrospectively classified as probable maternal mpox according to the Nigeria Centre for Disease Control and Prevention (NCDC) case definition following laboratory confirmation of MPXV infection in their newborns. All three male neonates presented within the first three weeks of life with fever and disseminated vesiculopustular eruptions. MPXV infection was confirmed by real-time polymerase chain reaction (PCR), and varicella-zoster virus infection was excluded where tested. Two neonates had low cycle threshold values, consistent with a high viral DNA burden. All infants received supportive care. Two recovered completely, whereas one died following early hospital discharge due to financial constraints. All mothers recovered without major complications. Although the temporal relationship between parental illness and neonatal disease suggested epidemiological linkage within the household, the precise route of neonatal acquisition could not be determined because transplacental, intrapartum, and early postnatal transmission remained plausible.

Conclusions

This multicentre case series expands the limited evidence on maternal and neonatal mpox in a clade IIb endemic African setting and highlights the diagnostic challenges of recognising mpox during pregnancy. Our findings demonstrate a spectrum of neonatal outcomes and underscore the uncertainty surrounding neonatal acquisition. Prospective studies that incorporate comprehensive maternal, neonatal, placental, and household investigations together with viral genomic sequencing are needed to clarify transmission pathways and inform evidence-based strategies for the diagnosis, management, and prevention of mpox during pregnancy and the neonatal period.

Introduction

Mpox is a re-emerging zoonotic disease caused by the monkeypox virus (MPXV), an Orthopoxvirus belonging to the family *Poxviridae*. [1, 2] Once regarded primarily as a neglected tropical disease affecting populations in Central and West Africa, mpox has become an important global public health concern following the multinational outbreak that began in 2022. [1, 3] Although zoonotic exposure historically accounted for most human infections in endemic regions, sustained human-to-human transmission through close physical contact, including sexual contact, has become increasingly important, particularly for clade IIb MPXV. [4] Since mpox re-emerged in Nigeria in 2017, the country has reported sustained transmission and has remained an important setting for understanding the epidemiology and evolution of clade IIb MPXV, which subsequently caused the 2022 global outbreak. [3, 5, 6] This epidemiological experience provides an important opportunity to improve understanding of mpox transmission, surveillance, and control in endemic and resource-constrained settings.

Pregnancy and the neonatal period remain among the least studied populations in mpox research. Pregnant women have been underrepresented in clinical studies and outbreak investigations, resulting in important knowledge gaps regarding maternal clinical presentation, diagnosis, pregnancy outcomes, neonatal disease, and optimal clinical management. [7, 8] Consequently, evidence informing the diagnosis and management of mpox during pregnancy remains largely derived from observational studies, individual case reports, small case series, and expert-informed guidance rather than high-quality prospective pregnancy-specific studies. [9]

Available evidence suggests that maternal MPXV infection may be associated with adverse pregnancy outcomes, including spontaneous abortion, stillbirth, congenital mpox, preterm birth, and neonatal infection. However, these observations have been derived predominantly from outbreaks involving Clade I MPXV, whereas evidence from Clade IIb infection remains limited. Furthermore, the mechanisms of neonatal acquisition remain incompletely understood. Although transplacental transmission has been demonstrated in some cases, intrapartum exposure during delivery and early postnatal transmission through close contact with infected caregivers are also biologically plausible. Distinguishing between these pathways is often challenging because comprehensive maternal, placental, neonatal, and household investigations are rarely performed, particularly in resource-limited settings.

Available evidence suggests that maternal MPXV infection may be associated with adverse pregnancy outcomes, including spontaneous abortion, stillbirth, preterm birth, and neonatal infection, with congenital mpox and fetal infection also reported. However, much of the evidence regarding severe fetal and neonatal outcomes has historically been derived from Clade I infections, while evidence concerning Clade IIb infection remains limited and is based predominantly on small observational studies and case reports. [9, 10] Furthermore, the mechanisms of neonatal acquisition remain incompletely understood. [10, 11] In utero transmission has been documented, including detection of MPXV in placental and fetal tissues, while transmission to the newborn through direct maternal contact during and after delivery is also recognized. [8, 9] Distinguishing between these pathways is often challenging because detailed

maternal, placental, neonatal, and household investigations, including appropriate virologic and temporal assessments, are not consistently performed, particularly in resource-limited settings. [9, 12]

Evidence from endemic African countries remains particularly limited for pregnancy and neonatal mpox, despite continued circulation of MPXV in the region. Differences in viral lineage, healthcare access, surveillance systems, diagnostic capacity, and outbreak-response infrastructure may influence the detection and management of mpox and potentially affect maternal and neonatal outcomes, thereby limiting the generalisability of findings from non-endemic settings. [13] In Nigeria, maternal mpox may remain unrecognised because clinical manifestations can be mild, atypical, or have resolved before presentation, while neonatal disease may initially resemble other vesiculopustular conditions, including varicella and bacterial skin infections. Clinical diagnosis of mpox can be challenging because its cutaneous manifestations overlap with several other infectious and non-infectious conditions, making laboratory confirmation particularly important where available. [14] These diagnostic challenges may delay appropriate clinical management, reduce case ascertainment, and obscure the timing and route of neonatal acquisition.

We report a multicentre case series of three mothers with probable mpox during late pregnancy, and their three neonates with laboratory-confirmed MPXV infection, all managed at hospitals in southern Nigeria. By describing the clinical presentations, diagnostic pathways, management, outcomes, and plausible routes of neonatal acquisition, we aim to expand the limited evidence on maternal and neonatal mpox in endemic Africa and identify priorities for surveillance, clinical care, and future research.

Methods

Study design and setting

We conducted a retrospective multicentre case series of maternal and neonatal mpox managed between January and May 2025 at three hospitals in southern Nigeria, comprising two tertiary teaching hospitals: the University of Port Harcourt Teaching Hospital (UPTH), Rivers State, and Rivers State University Teaching Hospital (RSUTH), Rivers State, and one private specialist hospital in Benin City, Edo State. These hospitals provide specialist obstetric, neonatal, paediatric, infectious diseases, and laboratory services and receive referrals for patients with suspected or confirmed mpox within their respective catchment areas.

Case identification and eligibility

Eligible participants were mother–infant pairs in whom the neonate had laboratory-confirmed mpox by real-time polymerase chain reaction (RT-PCR) and the mother had a compatible clinical illness during late pregnancy or the peripartum period. Maternal cases were retrospectively classified as probable mpox according to the NCDC surveillance case definition [15], based on compatible clinical features,

epidemiological linkage to a laboratory-confirmed neonatal case, and the absence of a more likely alternative diagnosis. Neonates were included only if MPXV infection was confirmed by RT-PCR.

Data collection

Clinical information was extracted retrospectively from hospital medical records using a standardized data abstraction form. Maternal variables included age, obstetric history, gestational age at symptom onset, antenatal care history, clinical manifestations, healthcare encounters before diagnosis, laboratory investigations, treatment, and pregnancy outcomes. Neonatal variables included age at presentation, birth characteristics, clinical features, laboratory findings, treatment, duration of hospitalization, and clinical outcomes. Where information was incomplete, additional details were obtained through review of follow-up records and consultation with the treating clinicians to improve data completeness and accuracy.

Laboratory investigations

Neonatal mpox was diagnosed by RT-PCR on lesion swab specimens at accredited molecular diagnostic laboratories in Nigeria. When clinically indicated, RT-PCR testing for varicella-zoster virus (VZV) was performed to exclude an important differential diagnosis. Cycle threshold (Ct) values were recorded, when available, as surrogate indicators of viral DNA burden. However, Ct values were interpreted cautiously because they are influenced by specimen quality, timing of specimen collection, assay characteristics, and laboratory protocols, and should not be interpreted as direct measures of infectivity or compared across different testing platforms.

Routine laboratory investigations, including complete blood count, serum electrolytes, urea and creatinine, liver function tests, and selected microbiological investigations, were performed when clinically indicated as part of routine patient management. Human immunodeficiency virus (HIV) and syphilis testing were undertaken where clinically appropriate in accordance with national clinical practice.

Case analysis

Each mother–infant pair was first described individually to illustrate maternal clinical presentation, neonatal manifestations, diagnostic pathway, management, and outcomes. A comparative analysis was then conducted to identify recurring clinical, laboratory, epidemiological, and health-system characteristics across the three cases. Particular attention was paid to maternal presentation, timing of illness relative to delivery, opportunities for diagnosis, neonatal clinical features, plausible routes of neonatal acquisition, treatment, clinical outcomes, and barriers to healthcare delivery. Given the available data, the route of neonatal acquisition could not be definitively established; therefore, potential

transplacental, intrapartum, and early postnatal transmission pathways were considered during interpretation.

Reporting guideline

The manuscript was prepared in accordance with the CARE (CAse REport) reporting guideline, with adaptations appropriate for multicentre case series, to enhance the transparency, completeness, and reproducibility of reporting.

Ethical considerations

The Research Ethics Committees of UPTH, RSUTH, and UBTH approved the study before it began. Individual informed consent was waived due to the retrospective design and the use of routinely collected, anonymized clinical data. All patient identifiers were removed before data extraction and analysis to ensure confidentiality. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki.

Results

The principal demographic, maternal, neonatal, laboratory, management, and outcome characteristics of the three mother–infant pairs are summarised in Table 1.

Table 1
Demographic, maternal, neonatal, laboratory, and outcome characteristics of the three mother–infant pairs with mpox

Characteristic	Case 1	Case 2	Case 3
Hospital	UPTH	RSUTH	Private specialist hospital, Benin City
Maternal age (years)	28	29	28
Parity	Multiparous	Multiparous	Primigravida
Maternal comorbidity	HIV infection	None	None
Timing of maternal illness	34 weeks' gestation	36 weeks' gestation	One day before delivery
Maternal presentation	Fever + vesiculopustular rash	Fever + vesiculopustular rash	Febrile illness only
Maternal MPXV laboratory confirmation	No	No	No
Maternal case classification	Probable	Probable	Probable
Paternal compatible illness	Yes	Yes	No documented history
Neonatal sex	Male	Male	Male
Birth weight (kg)	2.7	2.9	3.3
Age at symptom onset	Day 4	Day 9	Day 9
Age at presentation	Day 16	Day 16	Day 14
Neonatal presentation	Disseminated mpox	Disseminated mpox	Disseminated mpox
MPXV RT-PCR	Positive	Positive	Positive
VZV PCR	Negative	Negative	Negative
Ct value	19.80	19.70	21.60
Neonatal outcome	Recovered	Died	Recovered
Maternal outcome	Recovered	Recovered	Recovered

Case report 1

Clinical presentation

A 28-year-old multiparous woman with well-controlled HIV infection developed an acute febrile illness at 34 weeks' gestation, followed by a generalized vesiculopustular eruption involving the face, trunk, and extremities. She initially sought care at a private health facility, where she was empirically treated for uncomplicated malaria because mpox was not considered. The illness was self-limiting, and she remained clinically stable throughout pregnancy. Approximately three weeks after symptom onset, she delivered a healthy full-term male infant at a private hospital without obstetric complications. By the time her newborn was referred to UPTH, her cutaneous lesions had completely resolved, leaving residual hypopigmented macules on the upper limbs; consequently, laboratory confirmation of maternal MPXV infection was no longer feasible. Following confirmation of mpox in her infant, review of her clinical history and epidemiological information met the NCDC surveillance criteria for a probable maternal mpox case.

Exposure history

Further epidemiological investigation revealed that her husband had experienced a similar febrile vesiculopustular illness shortly after returning from travel outside Rivers State several weeks before the mother's illness. He neither sought specialist medical attention nor underwent diagnostic testing, and his illness resolved spontaneously. Both parents were receiving fixed-dose antiretroviral therapy comprising dolutegravir, lamivudine, and tenofovir disoproxil fumarate, remained adherent to treatment, and had sustained virological suppression.

The infant was born at term with a birth weight of 2.7 kg and remained well until the fourth day of life, when vesiculopustular lesions first appeared on the face and then progressively spread to the scalp, neck, and extremities, with relatively limited involvement of the trunk and genitalia. High-grade intermittent fever subsequently developed, prompting referral to UPTH on the sixteenth day of life after 12 days of progressive illness. There was no history of travel or exposure to individuals with similar symptoms outside the immediate household after birth.

Management

On examination, the neonate was febrile and had widespread vesiculopustular lesions at different stages of evolution, consistent with disseminated mpox. RT-PCR performed on lesion swab specimens confirmed MPXV infection and excluded varicella. Supportive management included isolation, intravenous fluids, continued breastfeeding, empirical broad-spectrum antibiotics, antipyretics, wound care, blood transfusion for clinically significant anaemia, and neonatal nevirapine prophylaxis because of HIV exposure. Subsequent HIV DNA polymerase chain reaction testing confirmed that the infant was HIV-uninfected.

Outcome and Follow-up

Clinical improvement was evident during admission, with gradual defervescence followed by progressive crusting and healing of the skin lesions. Although the infant was discharged earlier than planned because of financial constraints, structured outpatient review and telemedicine follow-up documented

complete resolution of the lesions without residual complications. The mother also remained clinically well throughout follow-up, and no further episodes suggestive of mpox occurred in either parent or the infant.

Case report 2

Clinical presentation

A 29-year-old multiparous police officer developed an acute febrile illness at 36 weeks' gestation while receiving routine antenatal care at a private hospital in Port Harcourt, Rivers State, Nigeria. The illness began with high-grade intermittent fever, partially relieved by paracetamol, and, several days later, progressed to generalised vesiculopustular skin lesions. She reported no recent travel outside Rivers State or Nigeria, no contact with wild animals, and no history of bushmeat consumption. Her husband, a military officer, developed a similar febrile vesiculopustular illness after returning from travel outside Rivers State. His lesions were still resolving at the time of delivery, during which he had close contact with the newborn. Neither parent underwent laboratory testing because mpox was not clinically suspected, and both recovered with symptomatic treatment. Following laboratory confirmation of MPXV infection in her newborn, a review of her clinical history met the Nigeria Centre for Disease Control and Prevention (NCDC) surveillance criteria for a probable maternal mpox case.

She subsequently delivered a full-term male infant without documented obstetric complications. The newborn remained well until the ninth day of life, when he developed high-grade, intermittent fever followed by vesiculopustular lesions on the face. Over the subsequent days, the eruption rapidly progressed to involve the scalp, neck, trunk, abdomen, upper and lower limbs, including the palms and soles, as well as the genitalia. Owing to extensive cutaneous involvement and persistent fever, he was referred to RSUTH on the sixteenth day of life for specialist evaluation.

Physical examination revealed a febrile neonate with widespread vesiculopustular lesions at various stages of evolution, consistent with disseminated mpox. RT-PCR performed on lesion swab specimens at the RSUTH Molecular Virology Laboratory confirmed MPXV infection, whereas varicella-zoster virus PCR was negative.

Management, follow-up and outcome

The infant was admitted and managed with isolation, continued breastfeeding, hydration, antipyretics, empirical broad-spectrum antibiotics, meticulous wound care, and close clinical monitoring. However, hospitalization was discontinued prematurely due to financial constraints, and the infant was discharged before completion of the planned inpatient management. Despite continuing the prescribed oral medications at home, the fever persisted, and the infant died on the 24th day of life. No post-mortem examination was performed, and the immediate cause of death could not be determined.

Case report 3

Clinical presentation

A 28-year-old primigravid petty trader with no known pre-existing medical conditions received routine antenatal care from 12 weeks' gestation at both public and private health facilities in Benin City, Edo State, Nigeria. Her pregnancy was uneventful, and routine antenatal screening for HIV and syphilis was negative. She had no history of smallpox or mpox vaccination.

One day before delivery, she developed an acute febrile illness characterized by high-grade fever and chills, partially relieved by paracetamol. The fever resolved spontaneously within 48 hours, and she did not develop a vesiculopustular rash or other symptoms suggestive of mpox. There was no documented history of travel outside Edo State, contact with individuals with similar illness, or other recognised epidemiological risk factors. Because the illness was brief and self-limiting, no laboratory investigations were performed during pregnancy. Following laboratory confirmation of MPXV infection in her newborn, a review of her clinical history fulfilled the NCDC surveillance criteria for a probable maternal mpox case.

She subsequently delivered a healthy full-term male infant weighing 3.3 kg without documented obstetric complications. The infant remained well until the ninth day of life, when he developed a high-grade fever followed by a rapidly progressive vesiculopustular eruption. The lesions initially appeared on the face and disseminated within 48 hours, involving the scalp, trunk, abdomen, upper and lower limbs (including the palms and soles), and genitalia. He presented to a private specialist hospital in Benin City on the fourteenth day of life with a five-day history of fever and generalized skin lesions. Since birth, the infant had remained at home except for routine immunisation visits, and there was no documented history of contact with individuals outside the immediate household.

Investigation

Physical examination revealed a febrile neonate with disseminated vesiculopustular lesions involving multiple body sites. RT-PCR of lesion swab specimens at the National Reference Laboratory, Gaduwa, Abuja, confirmed MPXV infection (Ct value 21.60) and excluded varicella-zoster virus infection.

Management, outcome and follow-up

The infant was managed with isolation, continued breastfeeding, hydration, antipyretics, empirical oral broad-spectrum antibiotics, meticulous wound care, and close clinical monitoring. Fever resolved within three days of admission, and the skin lesions progressively crusted and healed. The infant was discharged after satisfactory clinical improvement, and subsequent outpatient follow-up showed complete resolution of the cutaneous lesions without complications. The mother remained clinically well throughout follow-up and had no subsequent illness.

Comparison of the mother–infant pairs

The three mother–infant pairs shared several clinical, epidemiological, and health-system characteristics, despite differences in maternal presentation and neonatal outcomes (Table 2).

Table 2
Shared clinical and health-system findings across the three mother–infant pairs

Domain	Common findings
Maternal illness	Occurred during late pregnancy or immediately before delivery in all three mothers.
Maternal diagnosis	MPox was not recognised during pregnancy; all mothers were retrospectively classified as probable cases after neonatal diagnosis.
Neonatal disease	All full-term male neonates developed fever and disseminated vesiculopustular eruptions within the first three weeks of life.
Laboratory findings	MPXV infection confirmed by RT-PCR in all neonates; VZV excluded.
Transmission	Available evidence supported an epidemiological link but could not distinguish among transplacental, intrapartum, or early postnatal acquisition.
Treatment	All neonates received supportive care.
Outcomes	All mothers recovered; two neonates recovered completely, and one died following premature discharge due to financial constraints.
Health-system challenges	Missed maternal diagnosis, lack of maternal laboratory confirmation, delayed neonatal diagnosis, limited investigations to define transmission, and financial barriers to care.

Maternal illnesses occurred during late pregnancy or immediately before delivery in all three cases. Two mothers developed classical febrile vesiculopustular eruptions, whereas one had only a brief, self-limiting febrile illness without recognized cutaneous manifestations. None underwent laboratory testing for mpox during pregnancy because the diagnosis was not clinically suspected. Consequently, maternal infections were recognized only after laboratory confirmation of MPXV infection in their newborns and were subsequently classified as probable mpox according to the NCDC surveillance case definition.

The neonatal presentations were remarkably similar. All three infants were born at term and developed fever, followed by generalized vesiculopustular eruptions, during the first three weeks of life. RT-PCR confirmed MPXV infection in all neonates, and varicella-zoster virus infection was excluded in those for whom testing was performed. Two neonates had low cycle threshold values, consistent with a high viral DNA burden, whereas Ct data were unavailable for one infant.

Household epidemiological investigations identified potential intrafamilial exposure to MPXV in all three families. In two cases, fathers developed illnesses compatible with mpox before or around the time of maternal illness. In one family, the father had resolving skin lesions at delivery and had close physical contact with the newborn immediately after birth. However, the available clinical, epidemiological, and laboratory data were insufficient to determine whether neonatal infection resulted from transplacental, intrapartum, or early postnatal transmission.

Supportive care constituted the cornerstone of neonatal management across all three cases and included isolation, continued breastfeeding, hydration, antipyretics, empirical antimicrobial therapy, wound care, and close clinical monitoring. All mothers recovered without documented complications. Two neonates achieved complete clinical recovery, whereas one infant died following premature discontinuation of hospital care due to financial constraints.

Across the participating hospitals, recurrent health-system challenges included failure to recognise maternal mpox during antenatal or peripartum care, absence of maternal laboratory confirmation, delayed diagnosis until neonatal presentation, and limited investigations to determine the route of mother-to-child transmission.

Discussion

This multicentre case series offers important clinical and public health insights into maternal and neonatal mpox in an endemic African setting. Three principal observations emerge. First, maternal mpox in late pregnancy remained unrecognised in all three women despite healthcare contact before delivery, with the diagnosis becoming apparent only retrospectively after laboratory confirmation of MPXV infection in their newborns. Second, all three neonates developed laboratory-confirmed disseminated mpox during the early neonatal period, although the available clinical and laboratory evidence was insufficient to determine the precise timing or route of transmission. Third, while two neonates recovered completely with supportive management, one infant died following premature discontinuation of hospital care because of financial constraints, highlighting both the potential severity of neonatal mpox and the possible influence of health-system barriers on clinical outcomes.

Pregnancy remains one of the least studied populations in mpox research. Much of the available evidence comes from Central African outbreaks involving Clade I MPXV, in which maternal infection has been linked to miscarriage, stillbirth, congenital infection, neonatal disease, and fetal death. [7, 16] In contrast, reports of maternal and neonatal infection during the ongoing Clade IIb outbreak remain limited, particularly from endemic African countries. [8, 16] By describing three mother–infant pairs managed across multiple hospitals in southern Nigeria, our study contributes to the growing evidence base from endemic settings and broadens understanding of the clinical spectrum and outcomes of pregnancy-associated mpox. Although the small sample size precludes definitive conclusions, our findings suggest that maternal infection in late pregnancy does not invariably lead to adverse maternal or fetal outcomes and that favourable neonatal recovery is achievable with timely supportive care.

One of the most striking observations was the consistent failure to recognise maternal mpox during pregnancy despite repeated healthcare encounters. Two women developed classic febrile vesiculopustular eruptions in the third trimester, whereas the third had only a transient febrile illness without recognised skin lesions. None underwent laboratory testing, and all were managed symptomatically before delivery. These findings underscore the variable clinical presentation of maternal mpox and illustrate how mild, atypical, or self-limiting illness may escape clinical recognition. [8, 17]

Missed maternal diagnosis represents a lost opportunity for counseling, infection prevention, neonatal risk assessment, and targeted surveillance. [8, 17] Increasing awareness of mpox among obstetricians, midwives, emergency physicians, and primary healthcare providers should therefore be an important component of preparedness in endemic countries.

A particularly important finding of this series relates to the uncertainty surrounding mother-to-child transmission. Although all mothers developed compatible illnesses shortly before delivery and all neonates presented within the first three weeks of life with laboratory-confirmed mpox, the available evidence did not permit determination of the precise route of neonatal acquisition. Maternal infection during late pregnancy is compatible with transplacental transmission, exposure during labour and delivery, or transmission during the immediate postpartum period through close physical contact. [1, 18] In Case 2, the father also had resolving mpox lesions at the time of delivery and handled the newborn shortly after birth, introducing an additional plausible source of early postnatal exposure. The inability to distinguish among these transmission pathways reflects the absence of placental examination; testing of cord blood, amniotic fluid, and breast milk; and serial maternal specimen testing and viral genomic sequencing. [1, 18] These findings highlight important gaps in our understanding of MPXV transmission at the maternal–newborn interface and emphasize the need for prospective studies incorporating comprehensive virological investigations. [19, 20]

Neonatal disease was remarkably consistent across the three cases, with all infants presenting in the early neonatal period with fever and disseminated vesiculopustular eruptions involving multiple anatomical sites. The broad differential diagnosis of neonatal vesiculopustular disease, including varicella, herpes simplex virus infection, bacterial skin infections, and other congenital or perinatal infections, can complicate recognition of mpox, particularly in settings where neonatal disease remains uncommon. [9, 21] Our findings reinforce the importance of maintaining a high index of suspicion for mpox in newborns presenting with compatible clinical features during periods of ongoing transmission and underscore the value of prompt molecular confirmation to facilitate appropriate case management and infection prevention measures. [1, 22]

The death of one infant following premature discontinuation of hospital care also highlights the interplay between infectious diseases and health-system constraints in resource-limited settings. Although the immediate cause of death could not be established because no post-mortem examination was performed, the infant continued to have persistent fever after discharge and later died at home. Financial barriers directly interrupted inpatient management, illustrating how socioeconomic factors may adversely affect access to and continuity of care even when appropriate clinical care has been initiated. These observations underscore the importance of strengthening financial protection mechanisms, improving access to specialized neonatal care, and ensuring continuity of follow-up for families affected by emerging infectious diseases. [23]

This study has several strengths. To our knowledge, it is one of the largest multicentre case series describing maternal–neonatal mpox from an endemic African country during the ongoing outbreak.

Including cases from three hospitals enhances the diversity of clinical presentations and the relevance of the observations to similar endemic settings. Two neonatal cases included in this multicentre case series were previously published as individual case reports detailing their clinical management. [21, 24] The present manuscript is distinct in scope and objective, focusing on a systematic comparative analysis of three mother–infant pairs to provide clinically relevant insights into maternal presentation, potential transmission pathways, diagnostic challenges, health-system challenges, and neonatal outcomes. Nevertheless, several limitations should be acknowledged. The small number of cases limits generalisability; maternal infection could not be confirmed virologically because all women had recovered before evaluation; and comprehensive investigations required to determine the route of mother-to-child transmission, including placental examination, breast milk testing, cord blood analysis, viral culture, and genomic sequencing, were unavailable. These limitations highlight important priorities for future prospective studies.

In conclusion, this multicentre case series expands the limited evidence on maternal and neonatal mpox from a clade IIb endemic African setting, demonstrating that maternal infection during late pregnancy may remain clinically unrecognised despite healthcare contact and that laboratory-confirmed neonatal mpox may subsequently occur through transmission pathways that cannot be determined using currently available clinical information alone. While favourable maternal and neonatal outcomes were achieved in two families, the death of one infant underscores the potential consequences of interrupted clinical care and the vulnerability of neonates with mpox. Strengthening clinician awareness, integrating mpox into maternal and neonatal surveillance, expanding access to molecular diagnostics, and undertaking prospective studies with comprehensive virological and genomic investigations will be essential to clarify transmission pathways and improve evidence-based management of mpox during pregnancy and the neonatal period.

Abbreviations

ART – Antiretroviral therapy

Ct – Cycle threshold

HIV – Human immunodeficiency virus

MPXV – Monkeypox virus

NCDC – Nigeria Centre for Disease Control and Prevention

PCR – Polymerase chain reaction

PSH – Private Specialist Hospital

RSUTH – Rivers State University Teaching Hospital

UPTH – University of Port Harcourt Teaching Hospital

VZV – Varicella-zoster virus

WHO – World Health Organization

Declarations

Ethics approval

The Research Ethics Committees of UPTH, RSUTH, and UBTH approved the study before it began. Individual informed consent was waived due to the retrospective design and the use of routinely collected, anonymized clinical data. All patient identifiers were removed before data extraction and analysis to ensure confidentiality. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki.

Consent to participate

Written informed consent for publication of the clinical details was obtained from the parents or legal guardians of all neonates.

Availability of data and materials

The datasets generated and/or analysed during the current study are available from the corresponding author on reasonable request.

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Author contributions

CO conceived and designed the study. CO, EI, and VG collected clinical data, verified the medical records, and interpreted the findings. CO drafted the initial manuscript. All authors critically revised the manuscript for important intellectual content, approved the final version, and agreed to be accountable for all aspects of the work.

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Competing interests

The authors declare that they have no competing interests.

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