Management of a confirmed Lassa fever case in a make-shift isolation facility: implications for Lassa fever endemicity in an area that is Lassa fever free.

By

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The magnitude of Lassa fever (LF) outbreaks has increased markedly in the last few years in Nigeria. Nigeria had a total of 3,498 suspected and 633 confirmed cases from 23 states of the Federation from Jan.1-Dec. 30,2018 (NCDC)\(^1\). 45 health workers were affected (confirmed cases)\(^1\). Osun State is non-endemic for LF, but reported a few imported cases in 2018. LF could spread if proper vector control measures are not instituted in health care settings and the wider community.\(^2\)
Problems identified

• In June 2018, a patient with recent travel to a State with Lassa fever outbreak was symptomatic and was admitted in the Adult A&E ward (isolation ward).

• Upon confirmation, there was the need to admit into an isolation/treatment ward.(which was non-existent)

• Infection prevention measures were needed to prevent nosocomial spread.

• Proper waste disposal to prevent enzootic spread also posed a challenge. (rats)
Methods

• Set up of a make-shift isolation/ treatment ward
• Provision of hyperchlorinated water system
• Set up of waste management system

Picture showing the make-shift treatment ward
Interventions

- A make-shift isolation/treatment ward was designated
- Restricted access to the isolation/treatment ward
- Rapid fumigation of the Isolation ward
- Deployment of staff
- Contact tracing and surveillance
- Drafting of the OAUTHC treatment protocol
- Hospital wide training and sensitization
- Community sensitization on radio

Picture showing the shelf for storing PPEs and consumables
Interventions cont’d

• Staff were trained on issues such as:
  • Use of Personal protective equipment (PPE),
  • Observing aseptic techniques,
  • Hand washing and
  • Decontamination

• The entire ward (30 x40 ft) was overhauled:
  • Provided with hyper-chlorinated water that was piped into the treatment area, toilets and bathrooms in the isolation facility.
  • Separate areas for donning and doffing were designated.
  • Disinfection of all body effluents was ensured.

Pictures showing the improvised hyper-chlorination tanks and the piping network
OAUTHC Algorithm for the management of Lassa fever

**EXPOSED WELL INDIVIDUALS**

- **HIGH EXPOSURE**
  - Had contact with blood or body fluids including urine, vomitus or pharyngeal secretions of a confirmed case
  - Infants/children of confirmed cases

  - Enlist in surveillance for 21 days from after last exposure
  - Start prophylaxis oral Ribavirin for 5 days

  Observed a rise in temperature: \( \geq 37.5^\circ C \)

  Admit into Suspect Ward (Low Isolation Area)
  - Do RDT for Malaria
  - Send blood to two independent laboratories for Lassa PCR test

  RDT: Positive/Negative
  PCR: Negative

  - Treat for malaria
  - Observe and repeat PCR in 48hrs

  - PCR: Negative
  - Improved clinically: Temp is down

  Discharge to continue surveillance for 21 days after last exposure

- **LOW EXPOSURE**
  - Had casual contact e.g. Was with patient in the same ward/Relations of confirmed cases

  - Enlist in surveillance for 21 days from after last exposure

  Observed a rise in temperature: \( \geq 37.50^\circ C \)

  Admit into Suspect Ward (Low Isolation Area)
  - Do RDT for Malaria
  - Send blood to two independent laboratories for Lassa PCR test

  RDT: Positive/Negative
  PCR: Negative

  - Treat for malaria
  - Observe and repeat PCR in 48hrs

  - PCR: Negative
  - Improved clinically: Temp is down

  Discharge to continue surveillance for 21 days after last exposure

**SYMPTOMATIC (SEVERELY ILL) PERSONS**

- Fever not responding to anti malarial and
- Other signs in case definition

- Admit into Suspect Ward (Intermediate Risk Isolation Area)
  - Do RDT for Malaria
  - Send blood to two independent laboratories for Lassa PCR test

  RDT: Positive/Negative
  PCR: Negative

  Refer to Internal Medicine or Paediatrics

  RDT: Positive/Negative
  PCR: Positive

  Admit to Suspect Ward (High Risk Isolation Area) or refer if necessary

  PCR: Positive

**NB:** Discharge from surveillance 21 days after last exposure if no symptoms or signs
Intervention in Pictures

Pictures showing the improvised hyper-chlorination tanks and the piping network
RESULTS

• Subsequently, the case managed in the treatment facility recovered with minor sequelae (hearing impairment that resolved after one month).

• However, the patient declined PCR monitoring of seminal fluid for Lassa despite repeated counselling.

• There was no nosocomial transmission.

CONCLUSION

• With increasing number of LF cases, more ingenious ways to prevent enzootic and nosocomial spread must be deployed.

• Local innovative measures that address context-specific challenges would help in this regard.

• Research on the common rat vectors and their likelihood of being carriers should be explored.

• Provision/equipping of a standard treatment ward is appropriate as OAUTHC admits LF cases every year.

• Training and re-training of staff is needed.

Bibliography

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