

**ADVISORY FOR POSTMORTEM
SAMPLE SENT FOR
MEDICOLEGAL PURPOSE FOR
CONFIRMATION OF RABIES**

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Preamble: This document provides advisory on necessary procedure to be followed for postmortem sample sent for medicolegal purpose for confirmation of Rabies. It provides guidance on pre-requisite, documents required for accepting the sample at the laboratory, recommended sample, sample collection and storage guidelines, sample transport guidelines to be considered for samples for medico-legal aspects of suspected rabies case in reference laboratory.

A. Target audience

- All Hospitals and Centres with PM facility
- District/State Police Department,
- District/State Judicial and executive magistrate

B. Aim and Objectives of medico-legal postmortem of suspected rabies case

To confirm rabies infection as the cause of death in a medicolegal case suspected as rabies associated death

(Disclaimer: Laboratory test if found positive for rabies, confirms the diagnosis. However negative tests do not rule out the diagnosis. Hence Clinico-epidemiological correlation is required.)

C. Pre-requisite for medico-legal postmortem of suspected rabies case

Clinical Presentation

CASE DEFINITIONS

- a. **Suspected Rabies Case (Epidemiological)**- Death of a human with the history of animal bite/ dog bite of few weeks/month. Wherever available, the details of such cases should be shared in a line list- name, age, gender, address as per proforma annexed at Annexure 1.
(Disclaimer: As the incubation period for rabies is typically 2–3 months hence dog bite cases with less than 3 months history are fit for testing or as and when directed by Court¹).
- b. **Clinical Case**- A suspected clinical case of rabies in human is defined as an acute neurological syndrome (i.e. encephalitis) dominated by forms of hyperactivity (furious rabies)/paralytic syndromes (paralytic rabies) progressing towards coma and death, usually by cardiac or respiratory failure, typically within 7-10 days of the first signs if no intensive care is instituted. First sign may include any of the following: aerophobia, hydrophobia, paraesthesia or localised pain, dysphagia, localised weakness, nausea or vomiting.
- c. Hydrophobia is pathognomonic feature of rabies and documented signs and symptoms of hydrophobia can be considered as clinically confirmed cause of death if accompanied with a certified video/ documented history of dog bite by Medical Officer for medicolegal purposes so no laboratory testing is required. However, in

few instances neurological presentation especially in case with no classic features, post-mortem may be required

D. Documents required for accepting the sample at the laboratory

A police officer not below the rank of constable with authorisation letter and Copy of Identity Card accompanied by the sample must provide the laboratory for documentation purposes with the following attested documents by Officer in charge of a police station.

- a. Copy of First Information Report (FIR)/ General Diary (GD) Entry.
- b. Copy of brief facts and history about the case by Investigating Officer (IO).
- c. Clinical Case Sheet declaring the person dead by Causality MO or Ward MO and having information on hydrophobia or animal bite history.
- d. Autopsy report.
- e. Photographic evidence of animal bite on the body (marks, healed wounds, fresh wounds) if feasible
- f. Signed seal which is placed on the sample during the postmortem.
- g. Clinico-epidemiological information collected on the proforma and signed/stamped preferably by authorised signatory.
- h. Chain of custody of shipment of sample (date, time and temperature) must be mentioned.

E. Recommended sample and Storage box

Safety Precaution : Rabies is a highly infectious disease. All personnel's involved in the post – mortem should be equipped with appropriate personal protective equipment (PPE), including gloves, masks and face shields.

- a. Recommended tissue sample – Brain (Half preserved in 50% glycerol-phosphate buffered saline (50:50 mixture) (if minus 20°C is not readily available) and Half in sterile PBS)
- b. Recommended sites – Brain stem, Cerebellum, hippocampus are preferred sites if identifiable.

Identifiers on sample Vials:- Name, age, sex, PM No., Police station, date of collection, signature and name of autopsy surgeon along with sample seal.

F. Sample collection, storage and transport

- a. Fresh brain tissue is ideal for testing. (Autolysed or decomposed tissues are not accepted/processed)
- b. Fresh brain should be preserved according to mentioned guidelines within 30 minutes of isolation.
- c. Fresh brain (preferred sample) can be stored at minus 20°C for 24-48 hours if any delay is anticipated store at -20 °C.
- d. In case of non-availability of facility for storage at minus 20 °C, sample preserved in 50 % glycerol-saline will also be acceptable.
- e. Sample collection box should be preferably clear polypropylene jar with wide mouth, air tight and leak proof cover with capacity ranging from
o 60ml (2 cm X 2cm cubes of the different sections of brain from recommended

- o sites) or
- o 500 ml (Half Brain /complete cerebellum with brain stem) or
- o 1000ml (full brain)
- f. Specimens must be transported to the laboratory in transport containers, which comply with UN3373 regulations (United Nations Economic Commission for Europe, 2017) requirements² and in line with IATA guidelines³ if sample is shipped to some other laboratory/health care facility.
- g. Prior intimation to designated BSL 2 lab authorized for Rabies testing may be sent and sample receiving timing may be duly enquired by sample submission personnel.
- h. Dispose of all biological waste generated during sample collection following strict protocols. Clean and decontaminate all equipment and surfaces thoroughly.

G. Sample rejection

Sample processing is done only if fits into the laid down criteria in the advisory else sample will not be accepted or rejected.

References

1. Rabies. Retrieved November 29, 2023, from Who.int
<https://www.who.int/news-room/fact-sheets/detail/rabies>.
2. 49 CFR part 178 -- specifications for packagings. (n.d.). Ecf.gov. Retrieved October 10, 2023, from
<https://www.ecfr.gov/current/title-49/subtitle-B/chapter-I/subchapter-C/part-178>
3. Iata.org. Retrieved October 10, 2023, from
<https://www.iata.org/contentassets/b08040a138dc4442a4f066e6fb99fe2a/dgr-62-en-3.6.2.pdf>

Proforma for a case of Hydrophobia/Acute Neurological Symptoms for Suspected Case of Rabies (Human)

Section 1 (To be filled by investigating officer)

Sr. no:	Name:	Age:	Sex:
Complete address:			
Place of death:	Date of death:	PM no.:	PM date:
FIR registered: Yes/No		FIR details:	
Date of custody of samples:		Date of shipment of samples to: testing laboratory	

Sign.....
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Section 2 (To be filled by the treating doctor)

Date of admission	Date of animal bite:
Animal species:	Dog/cat/Monkey/Mongoose/Others specify
Type: Pet/Stray	Fate of animal: Alive/killed/unknown
Bite: Provoked/Unprovoked/Not known	
Outcome in other persons bitten: Alive/Dead/Not known	
No. of other persons bitten by same animal within one week of the bite:	
Type of exposure:	
<ul style="list-style-type: none"> 4. Minor scratches or abrasions without bleeding 5. Nibbling of uncovered skin 6. Contamination of mucous membrane with saliva 	
1. Licks on intact skin	Duration between bite and local treatment of wound:
2. Single or multiple bites with bleeding	0/1/2/3/4/5/6/7/more days
3. Licks on broke skin	Local treatment taken before coming to anti rabies clinic:
	Yes/no/not known
If yes, tick whichever is applicable: Washed with water/washed with soap and water/any other specify	
Who advised to come to anti rabies clinic: Self/Relative/Health worker/Neighbour/Friend/Previously treated	
Patient	
Previous history:	

P/H/O/ IMMUNIZATION : Immunized/ Incompletely immunized/Documents not available/ Unimmunized

Sign.....

Note: In case of no treating doctor, investigating officer to fill the details as far as possible.

Section 3 (To be filled by treating doctor)

Treatment given at anti rabies clinic	Details	Date
Wound washed in clinic	Yes/No	
Local instillation of ARS	Yes/No	
Wound suturing	Yes/No	
Antiseptic/cauterization	Yes/No	
Route of vaccine	ID/IM	
Any deviation from schedule		
Vaccine brand name and schedule details		
Vaccination document available	Yes/No	

Section 4 (To be filled by treating doctor)

Clinical symptoms	Details	Date of onset
Fever		
Local paraesthesia		
Breathlessness		
Paralysis		
Convulsions		
Hydrophobia		
Any other relevant details		
Treatment given		
Any other close contact of hydrophobia case		
Radiological investigations		

Cause of death:

Sign.....

Section 5 (To be filled by autopsy surgeon (preferably) and /or IO)

Findings on body	Details	Date
Bite marks/scratches/abrasions s/o animal bite or contact		
Any other relevant findings noted externally		

Section 6 (To be filled by IO)

Specimens of suspected case given to laboratory	Collection date	Transportation date	Name and ID No. of Authorized Messenger	Name of Police Station
Blood				
CSF				
Skin biopsy				
Saliva				
Corneal smear				
Brain				
Any other				

Signature of autopsy surgeon

Signature of IO