A microscopic image of Ebola virus particles, showing several spherical, filamentous structures with a distinct outer membrane and internal structure, set against a dark background.

Ebola HF

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MS, ICP

Symptoms of Ebola typically include

- Fever (greater than 38.6°C or 101.5°F)
- Severe headache
- Muscle pain
- Weakness
- Diarrhea
- Vomiting
- Abdominal (stomach) pain
- Lack of appet

Some patients may experience

- Rash
- Red eyes
- Hiccups
- Cough
- Sore throat
- Chest pain
- Difficulty breathing
- Difficulty swallowing
- Unexplained bleeding inside and outside of the body

Illness in a person who has both consistent symptoms and risk factors as follows:

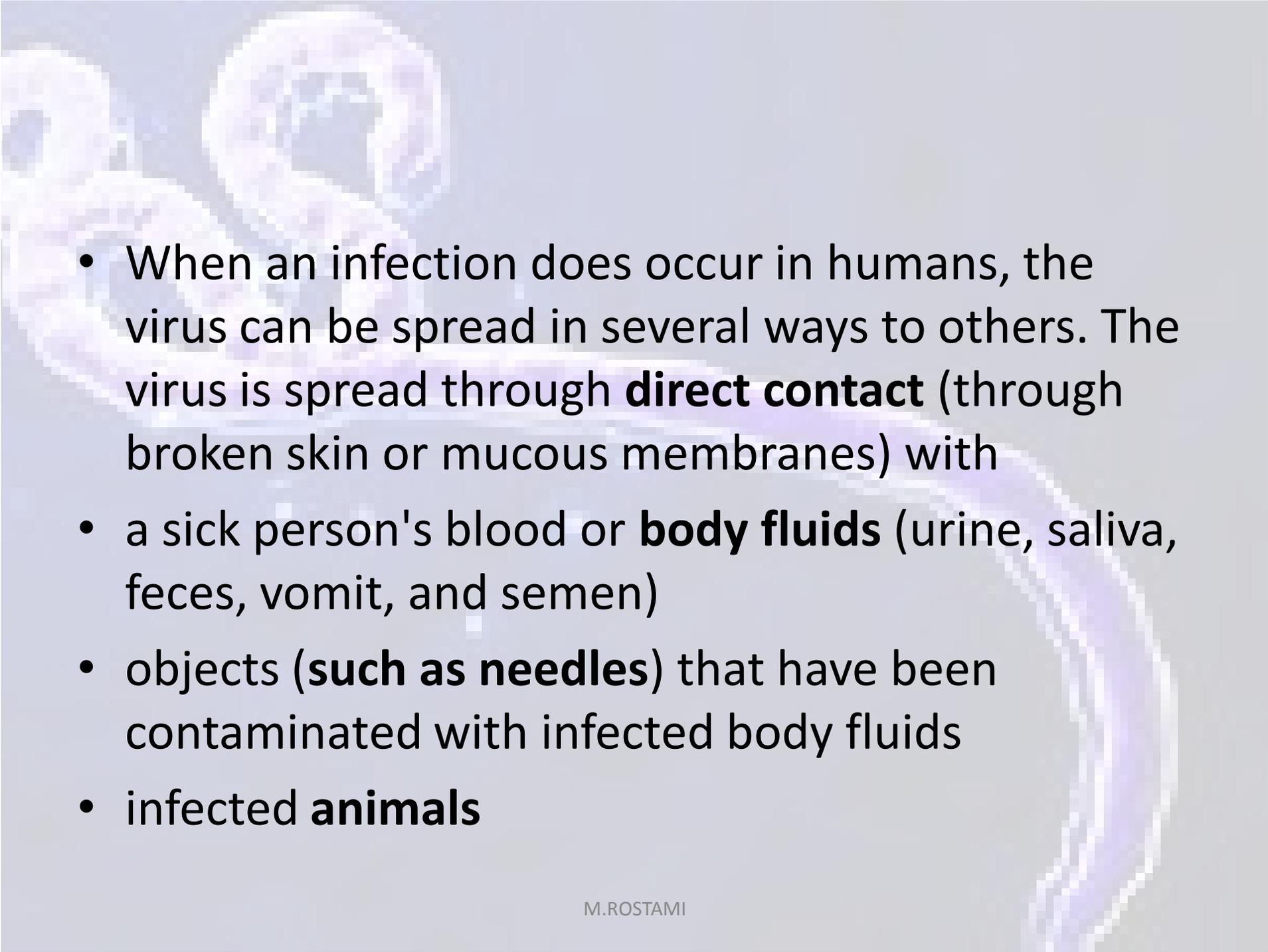
- 1) Clinical criteria, which includes fever of greater than 38.6 degrees Celsius, and additional symptoms such as severe headache, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained hemorrhage;

AND

- 2) Epidemiologic risk factors within the past 3 weeks before the onset of symptoms, such as contact with blood or other body fluids of a patient known to have or suspected to have EVD; residence in—or travel to—an area where EVD transmission is active; participation in funeral and burial rituals, or direct handling of bats, rodents, or primates from disease-endemic areas

Transmission

- Symptoms may appear anywhere from 2 to 21 days after exposure to ebolavirus, although 8-10 days is most common.
- Because the natural reservoir of ebolaviruses has not yet been proven, the manner in which the virus first appears in a human at the start of an outbreak is unknown. However, researchers have hypothesized that the first patient becomes infected through contact with an infected animal.

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- A background image showing several spherical viruses with a textured surface, likely representing the capsid, against a light blue and white background. The viruses are arranged in a cluster, with some appearing more prominent than others.
- When an infection does occur in humans, the virus can be spread in several ways to others. The virus is spread through **direct contact** (through broken skin or mucous membranes) with
 - a sick person's blood or **body fluids** (urine, saliva, feces, vomit, and semen)
 - objects (**such as needles**) that have been contaminated with infected body fluids
 - infected **animals**

- During outbreaks of Ebola HF, the disease can spread quickly within healthcare settings (such as a clinic or hospital). Exposure to ebolaviruses can occur in healthcare settings where hospital staff are not wearing appropriate protective equipment, such as masks, gowns, and gloves.
- Proper cleaning and disposal of instruments, such as needles and syringes, is also important. If instruments are not disposable, they must be sterilized before being used again. Without adequate sterilization of the instruments, virus transmission can continue and amplify an outbreak



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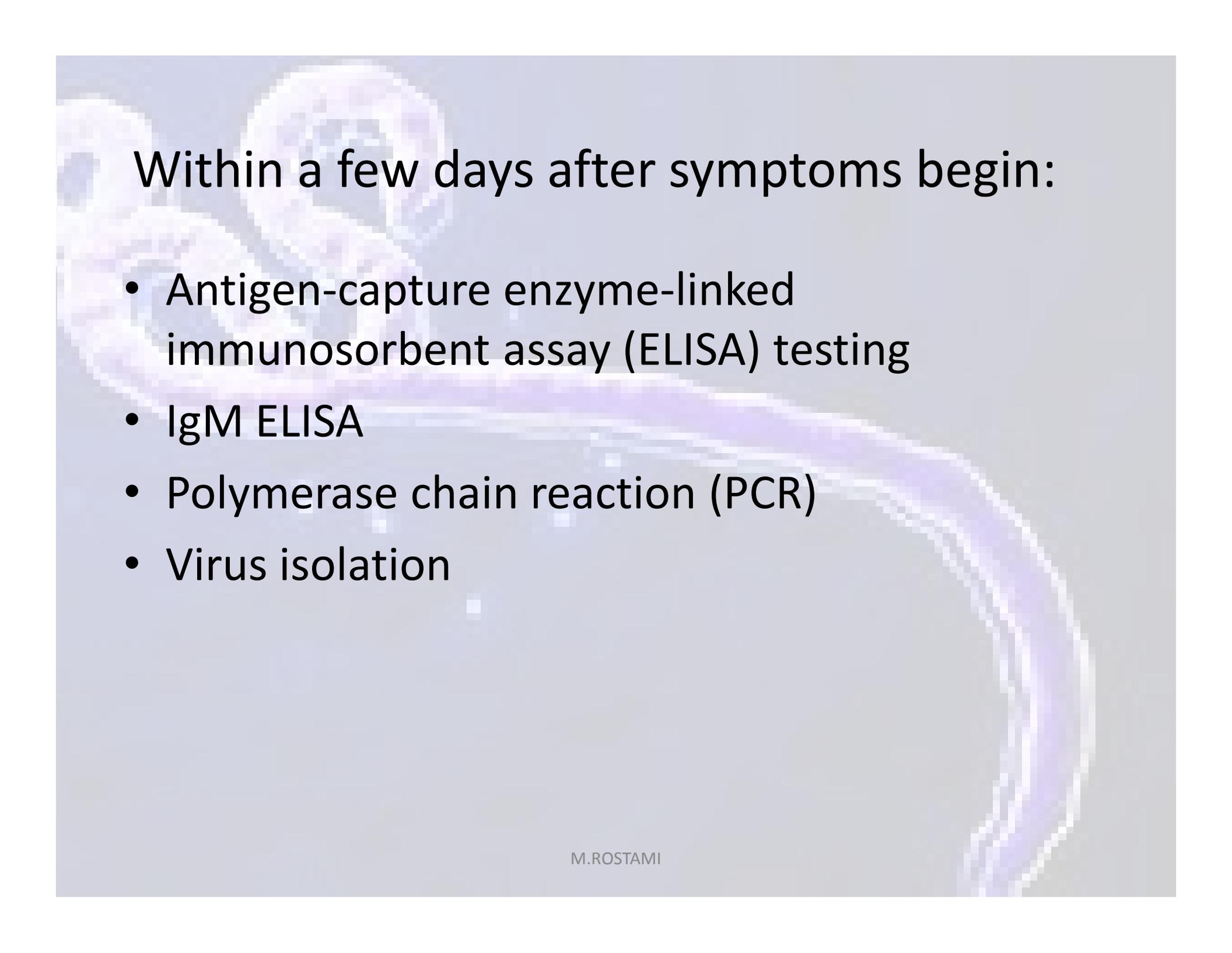
Barrier nursing techniques include:

- wearing of protective clothing (such as masks, gloves, gowns, and goggles)
- using infection-control measures (such as complete equipment sterilization and routine use of disinfectant)
- isolating patients with Ebola from contact with unprotected persons.



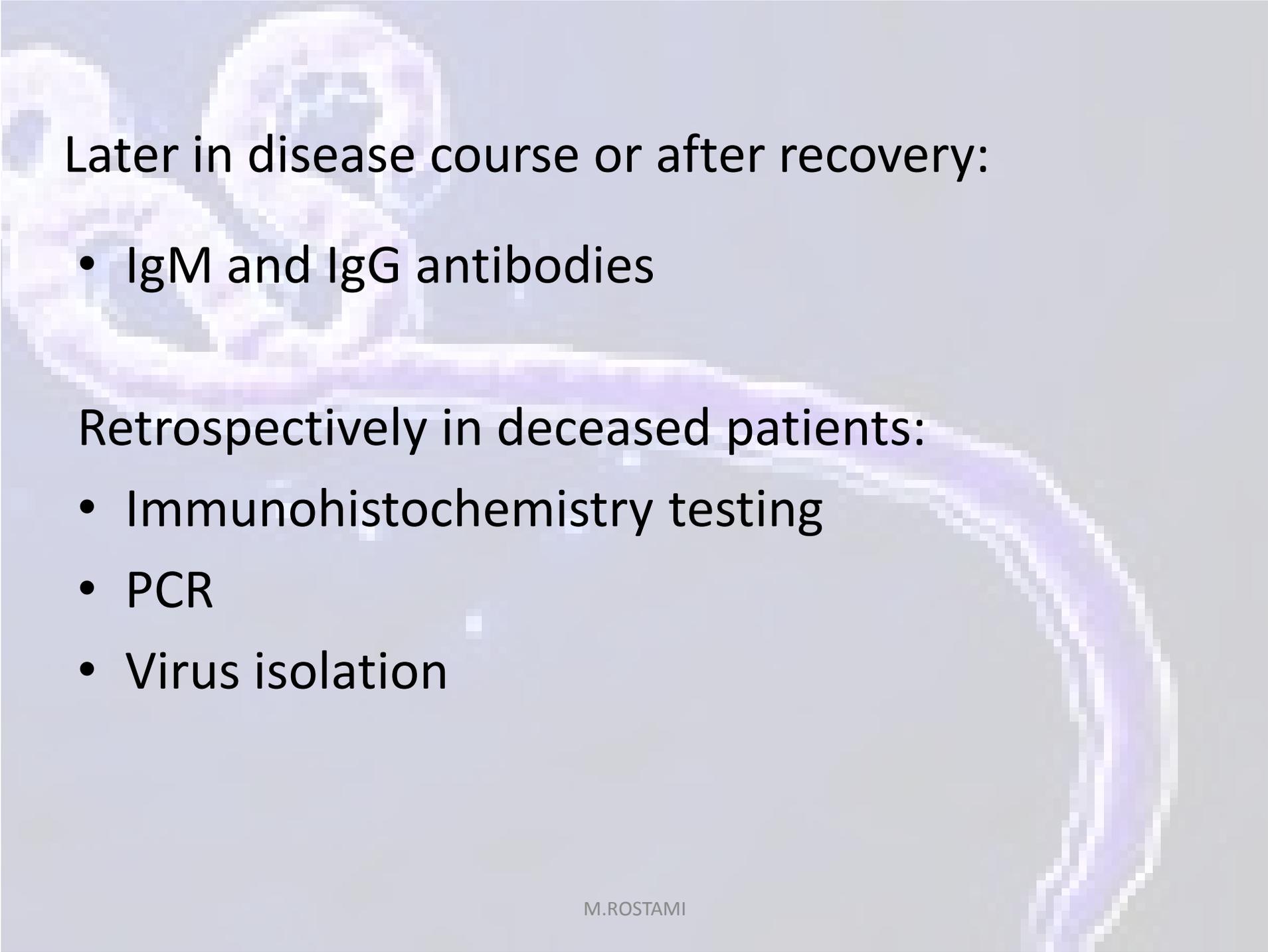
Diagnosis

- Diagnosing Ebola HF in an individual who has been infected for only a few days is difficult, because the early symptoms, such as red eyes and a skin rash, are nonspecific to ebolavirus infection and are seen often in patients with more commonly occurring diseases.



Within a few days after symptoms begin:

- Antigen-capture enzyme-linked immunosorbent assay (ELISA) testing
- IgM ELISA
- Polymerase chain reaction (PCR)
- Virus isolation



Later in disease course or after recovery:

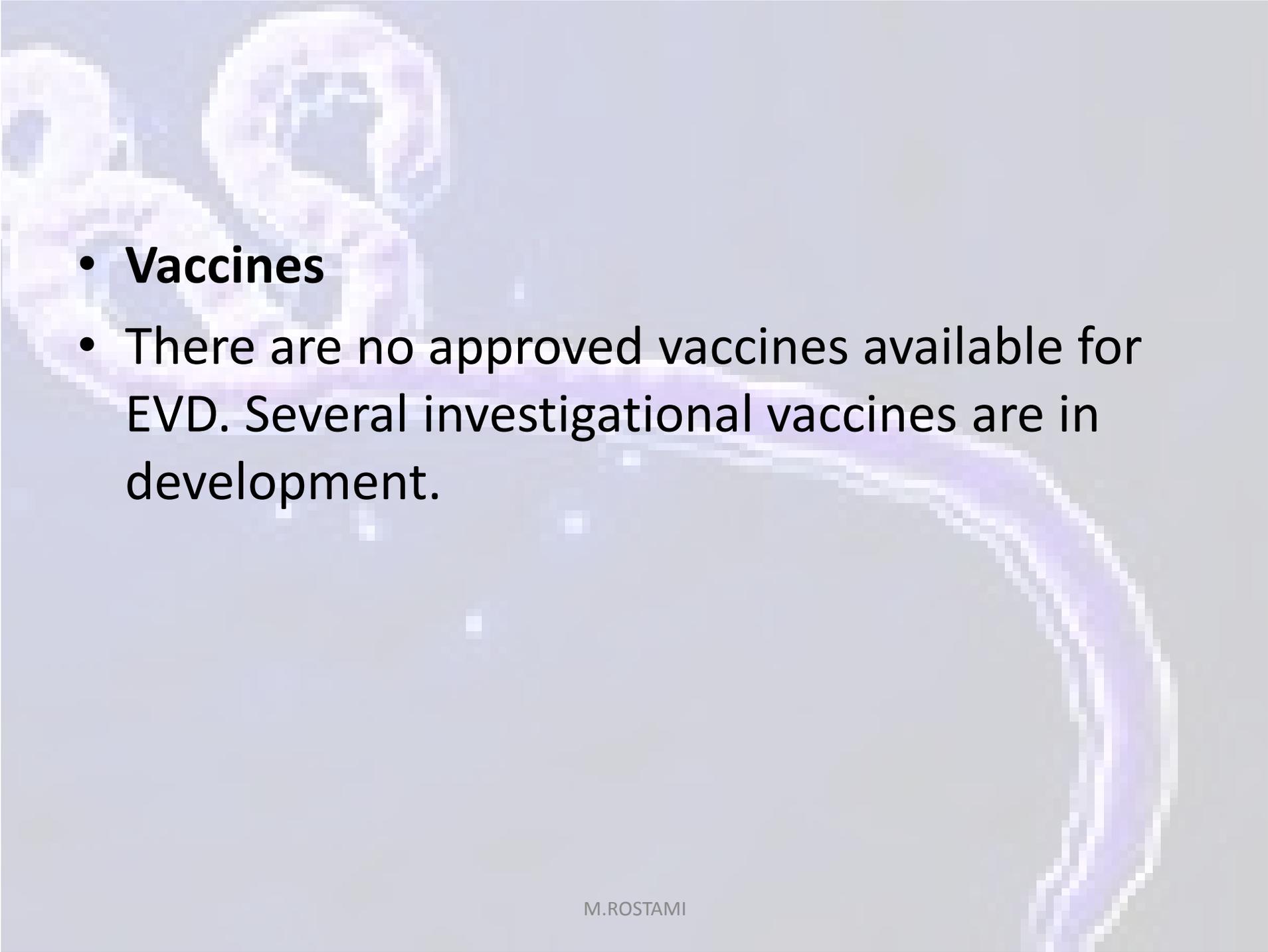
- IgM and IgG antibodies

Retrospectively in deceased patients:

- Immunohistochemistry testing
- PCR
- Virus isolation

Treatment

- Ebola does not have a known, proven treatment. Standard treatment for Ebola HF is still limited to treating the symptoms as they appear and supportive care.
- balancing the patient's fluids and electrolytes
- maintaining their oxygen status and blood pressure
- treating them for any complicating infections
- Timely treatment of Ebola HF is important but challenging because the disease is difficult to diagnose clinically in the early stages of infection.

A microscopic image of Ebola virus particles, showing their characteristic filamentous and thread-like structure. The particles are dark against a lighter background, and some are clustered together.

- **Vaccines**

- There are no approved vaccines available for EVD. Several investigational vaccines are in development.



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