Elsevier has created a Monkeypox Information Center in response to the declared public health emergency of international concern, with free information in English on the monkeypox virus. The Monkeypox Information Center is hosted on Elsevier Connect, the company's public news and information website.

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Monkeypox virus (MPXV), a type of orthopoxvirus that was previously thought to have a high fatality rate, has recently been reported in many countries and regions [1]. Monkeypox is a zoonotic viral disease that was first detected in research monkeys and is epidemic in West and Central Africa. In general, rodents and small mammals are considered to be the natural hosts of MPXV [2]. According to the global epidemiological situation presented by the World Health Organization (WHO) Secretariat, more than 14,000 probable and laboratory-confirmed cases were reported from 72 countries between January 2022 and July 2022. In the past 2 mo, confirmed cases of monkeypox have increased rapidly and spread in many countries. The WHO Director-General has designated the multicountry outbreak of monkeypox a public health emergency of international concern [3].

Unlike the sudden onset of the COVID-19 outbreak, monkeypox cases occurred as early as 1970 [4]. MPXV is comparable to smallpox virus, which has been studied by researchers for many years. There are two distinct MPXV clades, the West African clade and the Congo Basin clade, and the mortality rate for the Congo Basin clade is as high as 10% [5,6]. In contrast to COVID-19, transmission of MPXV is not easy and the chief modes of human-to-human spread are direct contact and sexual intercourse. Interestingly, a high rate of male homosexual infection is one of the characteristics of this monkeypox epidemic [7]. Therefore, in addition to dermatologists, urologists and andrologists have encountered many monkeypox cases in sexually transmitted infection clinics; these patients present with genital lesions, which greatly increases the risk of monkeypox infection for clinicians [8]. We conducted a big data analysis that revealed severe neglect of monkeypox research [9], with a lack of studies on monkeypox-related genitourinary symptoms and protective measures.

Identification of the early symptoms of monkeypox infection and improvements in awareness of protection measures are essential to reduce the risk of occupational exposure and transmission for health care workers. Monkeypox is characterized by fever, headache, cervical lymphadenopathy, and other flu-like symptoms in the early stage. At 1–3 d after disease onset, a rash appears, progressing from a maculopapular rash to herpes (including blisters and pustules), and then scabs or crusts. Most monkeypox lesions are distributed on the face and limbs, but can also appear in anogenital areas, the mouth, and the conjunctiva. Monkeypox lesions are well circumscribed and the exudate is highly contagious. Monkeypox infection is a self-limiting disease for most patients, with recovery usually taking 2–4 wk [10,11]. However, individuals with poor immunity, such as children, pregnant women, and the elderly, are prone to serious complications and even death [12,13].

In addition to the typical symptoms (prominent cervical and axillary lymphadenopathy), diagnosis of monkeypox depends on laboratory assays involving pathogenic detection in body fluids (including rash exudate, whole blood, urine) and throat swabs. Viral DNA is isolated and identified using methods such as electron microscopy, real-time polymerase chain reaction, and serological testing for specific antibodies. It should be noted that since smallpox, chickenpox, measles, shingles, and herpes simplex may have the same symptoms, monkeypox needs to be differentiated from these diseases [14,15]. We have summarized the differences among six common sexually transmitted diseases in Table 1.

The rash associated with monkeypox can also be observed in the genitourinary system. Urologist and andrologists who encounter the following symptoms in the genitourinary system accompanied by fever and cervical/
Table 1 – Differences between the six most common sexually transmitted diseases and monkeypox

| Disease                | Pathogen                        | Genitourinary symptoms                                                                 | Incubation period | Diagnosis                                      |
|-----------------------|---------------------------------|----------------------------------------------------------------------------------------|-------------------|-----------------------------------------------|
| Genital warts         | Human papillomavirus            | Warts in the genital or anal area causing itching and redness                           | 1–8 mo            | Symptoms and biopsy result                    |
| NGU                   | Mycoplasma, chlamydia, fungus,  | Pain/burning on urination; discharge from the penis/vagina                             | 7–21 d            | DNA tests for the NGU pathogen                |
|                       | trichomonad                     |                                                                                        |                   |                                               |
| Gonorrhrea            | Neisseria gonorrhoeae           | Burning on urination; discharge from the penis/vagina; pelvic or testicular pain       | 1–10 d            | Symptoms and PCR-based tests of urine, urethral swabs, or cervical/vaginal swabs |
| Syphilis              | Treponema pallidum              | Primary: Chancre                                                                           |                   | Symptoms, blood tests, and dark-field microscopy of infected fluid |
|                       | Secondary: nonitchy rash        | Secondary: 4–10 wk                                                                         |                   |                                               |
|                       | Latent: asymptomatic            | Tertiary: gummatous syphilis                                                               |                   |                                               |
|                       | Scabies                          | Early: 2–4 wk                                                                             |                   | Symptoms and blood tests (antibody test, p24 antigen test) |
|                       | Latency: asymptomatic           | Late: 3–20 yr                                                                             |                   |                                               |
|                       | Monkeys                           | Early: 2–4 wk                                                                             |                   | Symptoms and laboratory testing of body fluids (electron microscopy, real-time PCR, serological testing) |
|                       | virus                            | Late: large lymph nodes, fever, weight loss                                                |                   |                                               |
| AIDS                  | Human immunodeficiency virus     | Early: genital sores                                                                       | Early: 2–4 wk     | Symptoms and blood tests (antibody test, p24 antigen test) |
|                       |                                  | Latency: asymptomatic                                                                     | Later: 3–20 yr    |                                               |
|                       |                                  | Later: large lymph nodes, fever, weight loss                                                |                   |                                               |
| Monkeypox             | Monkeypox virus                  | Pustular lesions/vesicles on the dorsal penis                                             | 5–21 d            | Symptoms and laboratory testing of body fluids (electron microscopy, real-time PCR, serological testing) |
|                       |                                  | Scab/whitish lesions on the (glans) penis                                                  |                   |                                               |
|                       |                                  | Scrotal lesions with a purulent exudate                                                    |                   |                                               |

AIDS = acquired immunodeficiency syndrome; NGU = nongonococcal urethritis; PCR = polymerase chain reaction.

In summary, monkeypox spreads rapidly and is another important global public health concern besides COVID-19 that needs special attention. At present, direct contact with a patient’s body fluids is the main transmission route, with respiratory transmission another potential mode. Antiviral therapy and supportive and symptomatic treatment are the main approaches for monkeypox at present, and vaccines are under development. Urologists and andrologists are likely to be exposed to patients with monkeypox in the clinic and need to be vigilant and take appropriate precautions to avoid occupational exposure.

Conflicts of interest: The authors have nothing to disclose.
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