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Spermatogenic transmission of Marbug and ebola virus

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ABSTRACT

The spermatogenic transmission of infectious disease is an interesting consideration in reproductive medicine. The problem can be serious and classified as sexually transmitted infection. The concern is on the new emerging viral infections because there is usually little information on those new viruses. In this short article, the authors specially review and discuss on Spermatogenic transmission of Marbug and ebola virus.

1. Introduction

The spermatogenic transmission of infectious disease is an interesting consideration in reproductive medicine. In the pathogenesis, any blood borne pathogen which circulates in blood circulation might have chance for presentation in spermatic fluid. If there is any pathogen in spermatic fluid, the chance for further transmission to the others via sexual intercourse can be expected. The problem can be serious and classified as sexually transmitted infection. The best example is the case of HIV virus. At present , the concern is on the new emerging viral infections because there is usually little information on those new viruses. In this short article, the authors specially review and discuss on spermatogenic transmission of Marbug and ebola virus.

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2. Spermatogenic transmission of Marburg virus

Marburg virus is considered a new threaten to the medical society. This new virus can cause serious disease. Although there is presently no outbreak of Marburg virus, closed observation and surveillance is suggested. The possibility for spermatogenic transmission of Marburg virus is an interesting topic. It is no doubt that the Marburg virus can be detectable in spermatic fluid[1]. The speremato genic transmission of Marburg virus in animal model is confirmed [2]. Hence, it is likely that the Marburg virus can have spermatogenic transmission mode and if it is existed, it will become a new problematic sexually transmitted disease. Luckily, there is still no outbreak of Marburg virus infection. Also, there is no mild or asymptomatic case that can be the silent carrier for further possible sexual transmission[3].

3. Spermatogenic transmission of Ebola virus

Ebola virus infection is the present global issue due to its very large outbreak in West Africa in 2014. The disease causes thousand cases of infected patients. Baush *et al*. studied to risk of transmission of Ebola virus via body fluid and found that clinical specimen "including saliva, stool, semen, breast milk, tears, nasal blood, and a skin swab" could pose virus. Hence, it is no doubt that the contamination of Ebola virus in spermatic fluid is possible [4]. Of interest, the existence of virus in convalescent cases is reported[5]. This might imply risk. In fact, mild or asymptomatic Ebola infected cases can be seen and those cases can be the silent carrier for further possible sexual transmission[6-8].

4. Conclusion

The existence of Marbur and Ebola viruses in semen is confirmed. There is a high possibility that both viruses can have spermatogenic transmission mode. Focusing on the Ebola virus, which is the global problem, the risk of possible sexual transmission in mild or asymptomatic case can be expected.

References

[1] Siegert R, Shu HL, Slenczka W. Demonstration of the "Marburg virus" in the patient. *Dtsch Med Wochenschr* 1968; **93**(12): 616-619.

[2] Martini GA, Schmidt HA. Spermatogenic transmission of the "Marburg virus". (Causes of "Marburg simian disease"). *Klin Wochenschr* 1968; **46**(7): 398-400.

[3] Borchert M, Mulangu S, Swanepoel R, Libande ML, Tshomba A, Kulidri A, et al. Serosurvey on household contacts of Marburg hemorrhagic fever patients. *Emerg Infect Dis* 2006;**12**(3): 433-439.

[4] Bausch DG, Towner JS, Dowell SF, Kaducu F, Lukwiya M, Sanchez A, et al. Assessment of the risk of Ebola virus transmission from bodily fluids and fomites. *J Infect Dis* 2007; **196** (Suppl 2): S142-147.

[5] Rowe AK, Bertolli J, Khan AS, Mukunu R, Muyembe-Tamfum JJ, Bressler D, et al. Clinical, virologic, and immunologic follow-up of convalescent Ebola hemorrhagic fever patients and their household contacts, Kikwit, Democratic Republic of the Congo. Commission de Lutte contre les Epidémies à Kikwit. *J Infect Dis* 1999;**179** (Suppl 1): S28-35.

[6] Bellan SE, Pulliam JR, Dushoff J, Meyers LA. Ebola control: effect of asymptomatic infection and acquired immunity. *Lancet* 2014;**384**(9953): 1499-500.

[7] Leroy EM, Baize S, Debre P, Lansoud-Soukate J, Mavoungou E. Early immune responses accompanying human asymptomatic Ebola infections. *Clin Exp Immunol* 2001; **124**(3): 453-460.

[8] Leroy EM, Baize S, Volchkov VE, Fisher-Hoch SP, Georges-Courbot MC, Lansoud-Soukate J, et al. Human asymptomatic Ebola infection and strong inflammatory response. *Lancet* 2000; **355**(9222): 2210-2215.