

Stereological and Pathological Study on the Ultrastructure of Vero Cells Infected Enterovirus 71

Shen Hong¹, *Lin Peixin¹, Gao Lulu¹, Huang Yeen¹, Zhang Yaozhong¹,
Chen Qing²

Dept. of Pathology¹ and Epidemiology², Southern Medical University,
Guangzhou, China

Corresponding to Shen Hong, Shenhong2010168@163.com

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Introduction

Enterovirus 71 (EV71) can cause Hand, foot and mouth disease. The study aim to find the stereological characteristics of vero cells infected EV71 in ultrastructure, to explore its pathogenesis mechanism.

Materials and Methods

Vero cells infected EV71 were observed with transmission electron microscopy. Sections were cut in 500 Å. The magnification times is one hundred thousand for observation and stereological test, which use Image-Pro Plus 6.0 software.

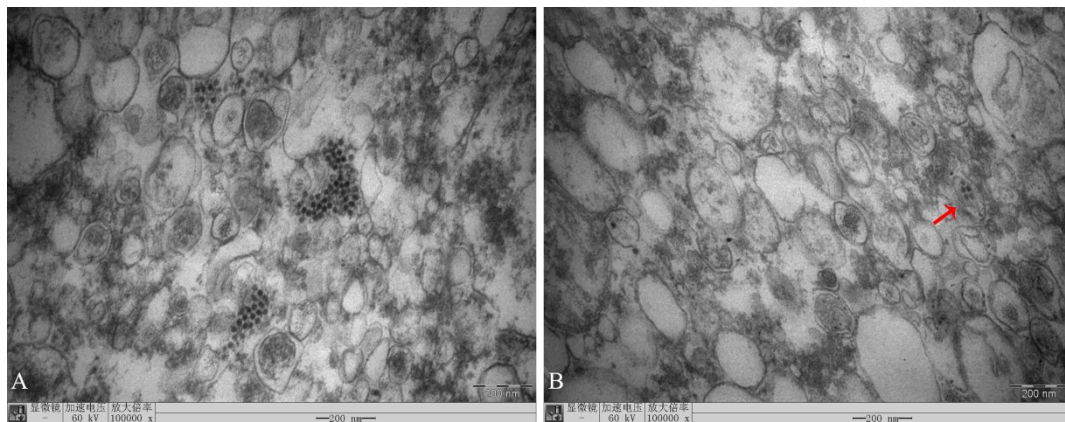


Figure 1. Ultrastructure of Vero cell infected EV71. EV71 in cytoplasm (A) and mitochondria (B)

Results and Discussion

EV71 can be found in cytoplasm and mitochondria in Vero cells when infected. It shows a sphere granules like and distributes as lattice. The diameter of EV71 is 14.8-20 nm after tissue shrinkage, and the average number is 705211 per Vero cell. The mitochondria show swelling, vacuole and Rupture, and its cristae shows fracture and fall off. Some of the cells show broken.

Conclusion

EV71 reproduce in cytoplasm in Vero cells. Mitochondria are the target for EV71 attack. When EV71 infects Vero cells, it reproduce in cytoplasm and invade mitochondria, and

lead the mitochondrial structure to injury directly, which result in the energy producing functions lost and cell death.

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