

INTERACTION OF VIRULENT AND NON-VIRULENT *Yersinia enterocolitica* STRAINS AND AN EPITHELIAL AND A PHAGOCYTYIC CELL LINES

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SUMMARY

Morphological alterations of HEP-2 and P338D₁ cells were detected as result of *Yersinia* virulent strains action only. A non-virulent strain caused none of these alterations even 24 h post infection (p.i.). The internalization of the bacteria was demonstrated by double fluorescence staining. Adherence and beginning of cell invasion of virulent strains was detected 30 min p.i. already. Two hours p.i. these bacteria were in great numbers inside the cells of both lines. The non-virulent *Yersinia* strain was found only in the P338D₁ macrophages at 2 and 24 h p.i. but in smaller numbers than virulent strains. Electron microscopy confirmed that internalization of virulent strains Y 526 and Y 527 was done by the phagocytosis of both cell lines. Even intracellular replication of these virulent strains was observed in both cell lines at 2 and 24 h p.i. Both bacterial strains were disintegrated as well as they multiplied inside the cells. In strain Y 526 disintegration of bacteria prevailed, whereas their replication predominated in the strain Y 527. At 24 h p.i. cells infected with strain Y 527 were sac-like, with rudiments of the cytoplasm and organelles, packed with bacteria that were released after cell membrane rupture. Cells infected with strain Y 526 were metabolically active and even at 24 h p.i. predominately contained disintegrated bacteria, but even in this case replication and release of bacteria was observed.

Key words: cytotoxicity, cell invasion, adherence, phagocytosis, intracellular replication

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