During the past years we observed a dramatic increase in MDR bacteria, especially carbapenemase producing enterobacteria, associated with nosocomial outbreaks. Such an outbreak due to oxa-48 producing *Klebsiella pneumonia* (Kp O-48) occurred at VSGH in 2011.

**Material and methods**

The Kp O-48 strains responsible for the outbreak involving 12 cases was sent to the Georges Eliava Institute for the isolation a specific phage. The phage was obtained and tested against all Kp O-48 outbreak isolates, 4 clonal O-48 strains isolated from other French outbreaks (obtained from the French National Reference Center, NRC), 8 Kp O-48 strains from an outbreak in Corsica and 4 Kp O-48 from Romania.

Two commercial phages cocktails (anti Kp, Microgen, Russia, and Intestiphage, Georges Eliava Institute, Georgia) were also tested against all strains.

To test the phages, a drop of a suspension of ca $10^7$ phages/ml was deposited on a Kp culture grown on Muller Hinton agar. The test was interpreted after 24 h.

**Results**

The specific phage was efficient against all 12 VSGH isolates, 3 out of the 4 clones of the NRC, all Romanian strains and 3 out of the 8 strains from Corsica; the 5 remaining strains belonged to another genotype.

**Conclusion**

According to the *in vitro* tests, the use of the natural phages appears to be as a possible alternative or complementary treatment of human infection, and/or human or “surface” colonization due to MDR bacteria. However, animal models and human trials are necessary to confirm the phage activity *in vivo*. 