Klebsiella pneumoniae epidemiology in the Southeast: control and epidemiology

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The most recently reported Klebsiella pneumoniae outbreak in the Southeastern United States had the characteristics of a large outbreak, resulting in the microbe spreading rapidly to at least 82 regional hospitals and 700 nursing homes.

World Health Organization established a biosecurity alert during the outbreak.

The frequency of Klebsiella pneumoniae reported in community and in hospitals varied, with most Klebsiella pneumoniae in both settings coming from healthy people with no documented medical history or severe illness.

The study by Lorenzo Canales, Laura Garci-a, Virginia Plasencia, Olga Hidalgo, Jos- Ignacio Ayestar-n, Sebasti-n Alberti, Olga Garcia, Jos-L. P-rez, Antonio Oliver, Luis Salcedo, Juliana Garcia, Esteban Ceballos, Fabian Hermida, Jen-vira Flores and Marie-Sophie Filing explains the causes, epidemiological patterns and control measures adopted by the public health entities in the event of the Klebsiella pneumoniae outbreak in the Southeast.

Their data confirm that the Klebsiella pneumoniae outbreak was characterized by a high pathogen load and by the failure of infection control measures, including both inoculation and rapid isolation of patients.

A large number of healthcare workers, outpatient clinic staff and private healthcare facilities were directly involved in the transmission of Klebsiella pneumoniae.

The public health entities used the Klebsiella pneumoniae detection and control strategy that has a well established pedigree, but at the same time did not take measures to prevent the spread of the infection throughout the population, including the private health care facilities, nor did they attempt to detect and contain the disease in a timely manner.

The necessary controls taken were not implemented in order to control the spread of the infection in a timely manner. The transmission of Klebsiella pneumoniae spread therefore went beyond the health care facilities and the at-risk population reached a level highly unlikely to be observed in a single site.

All measures taken to control the spread failed. In some cases, screening of patients went wrong or was not done at all.

Despite the capacity for diagnosis of the infected individuals, no test was available for the other individuals who might have been contaminated, especially since screening and isolation of patients or visitors to the health care facilities was delayed.

Information provided by the patients themselves was insufficient to verify their identities, and the available information was too vague to fully account for the presence of Klebsiella pneumoniae. The available data did not include confirmation of the presence of the Klebsiella pneumoniae pathogen in the vaccinated individuals, or in the non-vaccinated individuals.

The sampling, diagnosis and control methods indicated the same level of failure in three of the five national epidemiological surveillance systems.

Researchers analyzed the capabilities of the monitoring approach and the control strategies used by the public health entities during the Klebsiella pneumoniae outbreak in the Southeast. Their results clearly indicate that the healthcare institutions, patients and their families have important roles to play in epidemiology and control of disease. The healthcare entities also played a leading role in protecting the general population.

By implementing screening and isolation measures in hospitals and in at-risk areas, healthcare entities were able to enable control of the outbreak and protect the community from the spread of the infection.

To prevent future outbreaks of Klebsiella pneumoniae, healthcare institutions and non-healthcare personnel must be able to quickly and accurately identify and contain disease, by adhering to the correct preventive measures. A widespread vaccination program and surveillance of all healthcare workers and in-patient populations should also be followed.

In addition, the tools and strategies employed to control and eradicate the disease in the past need to be adopted to prevent future epidemics.

A Bird Is Standing On The Side Of A Road