

DESCRIPTION OF AN OUTBREAK OF EXTENDED-SPECTRUM B-LACTAMASE-PRODUCING *KLEBSIELLA PNEUMONIAE* IN AN SECONDARY UNIVERSITY-AFFILIATED HOSPITAL IN MURCIA

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Objectives and methods:

Describe a 20-month outbreak of extended-spectrum beta-lactamase-producing *Klebsiella pneumoniae* (ESBL-Kp) occurred in Morales Meseguer Hospital, Murcia.

In April 2012, after a rapid increase in infections/colonizations caused by ESBL-Kp was detected, we implemented a bundle of prevention procedures. The genetic relatedness determination of the strains was performed by Pulsed-field gel electrophoresis (PFGE) at the National Reference Center (Majadahonda, Spain).

Results:

Specimens for 139 patients were positive for ESBL-Kp during the outbreak in different medical units included Intensive Care Unit (16 cases were imported from outside the hospital and 123 cases were classified as nosocomial).

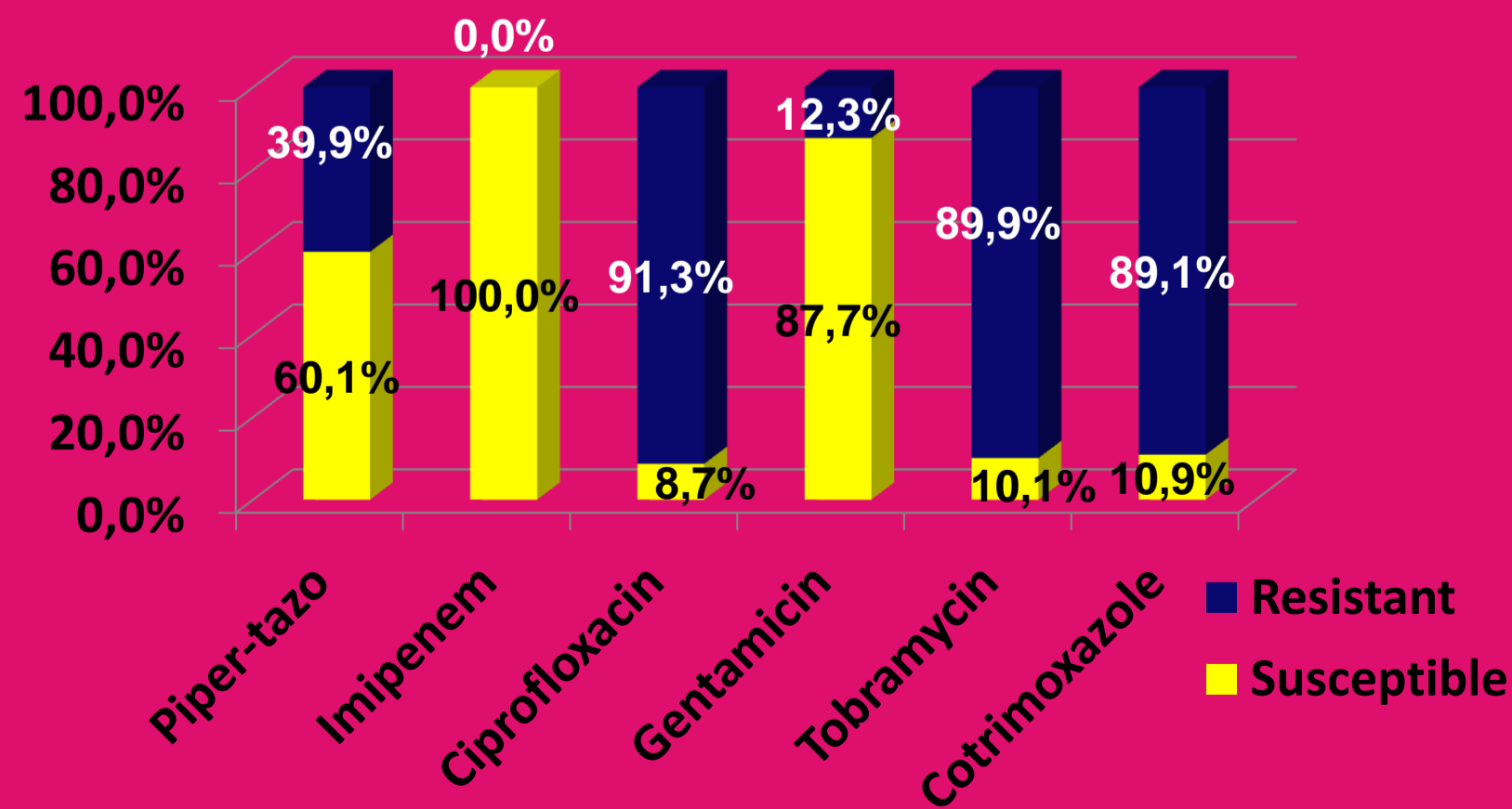


Fig. 2. Susceptibility percentage of ESBL-*Klebsiella pneumoniae* isolates

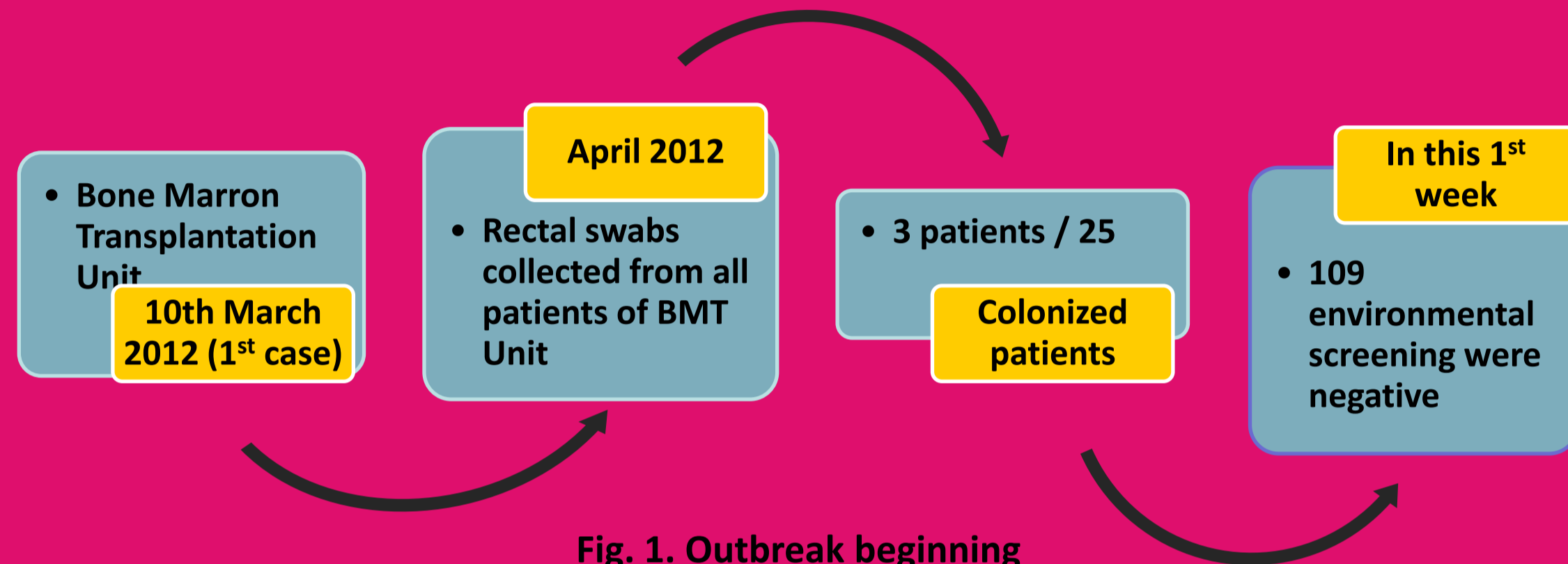


Fig. 1. Outbreak beginning

Of 139 ESBL-Kp strains isolated, 126 were performed the genetic analysis. Clone 4 was predominant (94 of 126 isolates studied corresponded to 7 different PFGE subtypes). The remaining isolates belonged to different clones. The average age was 70.4 years, predominantly male (57.4%) with multiple comorbidities. The median length of stay of the patients was 25.83 days.

Among the 126 studied patients, 31.7% were colonized and 68.3% patients were infected. Urinary tract infection was the most common ESBL-Kp infection followed by primary bloodstream infection. The transmission was considered horizontal.

Conclusions:

- In our institution occurred an important outbreak of ESBL-Kp caused mainly by the clone 4, with horizontal transmission promoted by contact and fomites.-
- The early and continuous monitoring of new cases in the hospital with the implementation of appropriate measures are crucial to achieve the eradication of the outbreak.