As part of the SENTRY Antimicrobial Surveillance Program, selected multi-drug resistant strains are screened. Sources were identified carrying GES-1 in diverse molecular size plasmids. In contrast to the resistant pattern observed in the K. pneumoniae strain in 1998, although the GES-1 producing P. aeruginosa strain isolated in another France hospital, resistance to both first- and second-generation cephalosporins, ampicillin, and sulbactam was observed. The K. pneumoniae strain showed high-level resistance to all antimicrobial agents evaluated, except polymyxin B (MIC, >1 µg/ml). First-generation cephalosporins were kept along with ceftriaxone for an additional 14-day period, when the patient showed fever, hypotension, and metronidazole. The first-generation cephalosporin was then replaced by ceftriaxone. Amikacin and trimethoprim were added. Seven days after surgery, the patient developed a wound infection while receiving cephalothin, amikacin, and metronidazole. An endometrial biopsy was performed through curettage and revealed endometrial sarcoma.

**Background:**

G. E. S. 1 was initially isolated from a Colombian K. pneumoniae strain in 1998. Although the G. E. S. 1 producing K. pneumoniae strain had been isolated in a French hospital in 1996, it was transferred to a patient from Cayenne, French Guiana, South America. The patient was a newborn, who had been hospitalized in Cayenne for treatment of a neonatal infection due to Klebsiella pneumoniae. Following three weeks of antibiotic and renal therapy, the newborn was transferred to the intensive care unit (ICU) of the French hospital for a renal failure and recovered the G. E. S. 1 producing K. pneumoniae strain isolated in Iceland.

After the leading report, the finding of a G. E. S. 1 producing strain isolated in another French hospital in 1996, it was transferred to a patient from Cayenne, French Guiana, South America. The patient was a newborn, who had been hospitalized in Cayenne for treatment of a neonatal infection due to Klebsiella pneumoniae. Following three weeks of antibiotic and renal therapy, the newborn was transferred to the intensive care unit (ICU) of the French hospital for a renal failure and recovered the G. E. S. 1 producing K. pneumoniae strain isolated in Iceland.

**Methods:**

Automated systems and the results analyzed by DNAstar.

**Results:**

**Strain 48-8896 from Sao Paulo, Brazil was a G. E. S. 1 producing K. pneumoniae strain.** Following sequencing, the 54/97 was used as a positive control. MBL production of metallo-β-lactamases was screened by the disk approximation test. Briefly, a 100mm Mueller-Hinton agar plate was inoculated using a 0.5 McFarland suspension of each strain. The ß-lactamase extract from strain 48-8896 was obtained by cell lysis with BugBuster (Pierce, Rockford, IL) and the experiment was performed with a NOVEX (Invitrogen, Carlsbad, CA) kit (Quiagen, West Sussex, United Kingdom). Transformation was performed as previously described in the SENTRY Antimicrobial Surveillance Program. The ß-lactamase extract from strain 48-8896 was grown overnight in nutrient broth (Oxoid, Basingstoke, Hampshire, United Kingdom). The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases. The ß-lactamase extract was used to evaluate the production of metallo-ß-lactamases.

**Conclusion:**

The GES-1 producing P. aeruginosa isolate causing a bacterial infection in a Brazilian hospital may indicate the regional spread of this gene.