has been identified in a patient with no recent history of travel. As in this last case, the description here of blaNDM-1-carrying A. pittii in France is made in a patient with no recent history of travel. The diagnosis was made fortuitously from a rectal swab sample. The context of this diagnosis suggests that the circulation of ACB species carrying blaNDM may be underestimated in France.

This case raises questions about the management of patients with carbapenemase-producing A. pittii carriage in hospitals. Here, all the patients hospitalized in the same ward and screened for carbapenemase carriage were negative. Dissemination of NDM-1-producing A. pittii has been noted in an ICU. NDM-producing A. pittii had then been isolated in the air within the ICU, being suspected to contribute to the dissemination of the bacterium. Therefore, early detection of carbapenemases in Acinetobacter species seems critical to control the dissemination of carbapenemase-producing isolates.

Here, this first French case of NDM-producing A. pittii in a patient with no history of travel enhances the problem of carbapenemase-producing ACB species and their management in hospitals.

Nucleotide sequence accession number

The sequence of the A. pittii G867 isolate has been deposited in GenBank (FKLP01000001–FKLP01000207).

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Transparency declarations

None to declare.

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Recurrent detection of VIM-1-producing Escherichia coli clone in German pig production

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Sir,

Carbapenems are declared as ‘critically important’ antibiotics by the WHO. Recently, carbapenemase-producing Enterobacteriaceae (CPE) arose as a major concern in human medicine, where they are
This study describes the first detection of a commensal recorded within the scope of the national monitoring programmes. It might emerge as a reservoir for CPE and that pan-resistant isolates German swine and poultry farms raised concerns that livestock producing carbapenems are not licensed for veterinary use and no maximum the PCR products.5,7 Are further characterized by PCR and subsequent sequencing of ESBL/AmpC phenotype or phenotypic resistance to carbapenems method following CLSI guidelines (CLSI M07-A9). Isolates with an 2013/652/EU, susceptibility is determined using the microdilution late showing resistance to meropenem (MIC/C21/0.12 mg/L) and imipenem (MIC/C21/0.5 mg/L), erta- 2 mg/L) (isolate R1176, isolated in December 2015 from the colon content of a R1176, isolated in December 2015 from the colon content of a Braenderup (H9812) as size marker. 

So far, no carbapenemase-producing E. coli isolates had been recorded within the scope of the national monitoring programmes. This study describes the first detection of a commensal E. coli isolate showing resistance to meropenem (MIC ≥0.5 mg/L), ertapenem (MIC ≥0.12 mg/L) and imipenem (MIC ≥2 mg/L) (isolate R1176, isolated in December 2015 from the colon content of a slaughter pig) within the monitoring programme. PCR and subsequent sequencing analysis revealed the presence of a blaVIM-1 gene. XbaI PFGE revealed a highly similar restriction pattern of R1176 to E. coli isolates described by Fischer et al.,5,6 from samples collected in 2011 from a swine farm (Figure 1; R29 and R178). This indicates a clonal relationship of these VIM-1-positive E. coli, although the affected livestock farms are regionally clearly separated. In contrast to E. coli isolates R29 and R178, in R1176 neither the blaACC-1 gene nor the typical 220 kb VIM-1 plasmid of the former isolates was detected through PCR and S1 nuclease PFGE (Figure S1, available as Supplementary data at JAC Online). Supported by the failure of blaVIM-1 hybridization experiments on S1 nuclease PFGE (Figure S2) and transformation experiments, a chromosomal location of the blaVIM-1 gene in R1176 is assumed. This might be driven by an association of the blaVIM-1 gene with mobile genetic elements, as described for R178 as well.

To verify a potential clonal persistence of VIM-1-positive E. coli within the farm that the pig originated from, in March 2016 colon content from five healthy animals in another slaughter batch from this farm was examined. This resulted in the isolation of four additional carbapenem-resistant E. coli (isolates R1177–R1180) from one of the samples. Again, XbaI PFGE patterns of these four isolates were very similar to those mentioned above (Figure 1). This hints at the presence of a specific clone on this farm and a link with isolates obtained from the farm investigated in 2011.5 S1 nuclease PFGE with subsequent hybridization experiments, described by Rodríguez et al.7 in 2009, revealed blaVIM-1 localization on 180–200 kb IncHI2 plasmids in all four isolates (Figure S1). And, indeed, the VIM-1-plasmid-harbouring isolates were also positive for the blaACC-1 gene, further resistance genes strA and strB and class-I-integron-associated resistance genes aadA1 and aacA4 and sul1, as shown for pRH-178, assuming the presence of a highly similar plasmid in these isolates compared with the ones from 2011.4,5

All five isolates described in this study yielded to ST88 and phylogenetic group A and harboured the blaVIM-1 gene on a class 1 integron with gene cassettes that were identical to those described for R29 and R178, independently of its localization on the plasmid or the chromosome.5

In the above-mentioned national AMR monitoring programmes no carbapenemase-producing E. coli had been detected until the end of 2015, indicating a very low prevalence of such bacteria in the German livestock population. However, detection of highly related VIM-1-producing E. coli isolates from an additional swine farm in Germany in this study indicates persistence of a VIM-1-producing E. coli clone in the swine population for at least 4 years. Further investigations on the persistence of this clone are currently under way. Detailed genomic analysis will be carried out to reveal a potential reason for stable maintenance of this clone and to uncover potential transmission pathways of these isolates. The understanding of transmission pathways and the persistence of CPEs among different populations to limit the spread of CPEs in livestock is of major relevance for public health. Finally, results of this study underline the importance of the carbapenemase monitoring recommended by the European Food Safety Authority (EFSA) and the European Commission.

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Supplementary data
Figures S1 and S2 are available as Supplementary data at JAC Online (http://jac.oxfordjournals.org/).

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