San Diego, CA)[6] and compared the genetic structures of all the isolated KPC-3-Kp ST395. For these isolates, cluster analysis based on MLST genes indicated a unique sublineage (or clonal group) of *K. pneumoniae*. This is not the first report of an outbreak of colonization by KPC-producing *K. pneumoniae* (KPC-Kp) in a NICU in Palermo; the pandemic ST258 clone has already been reported in another NICU here.[3] Furthermore, in our area, the monoclonal spread of the successful pandemic ST258 clone is apparently being replaced by a simultaneous dissemination of multiple clones of KPC-Kp.[7] In other recent surveillance studies from Italy,[2,8,9] multifocal dissemination of KPC-3–producing *K. pneumoniae* (KPC-3-Kp) clones have been observed, showing the rapid emergence of the KPC-3-Kp ST307 clone, also coproducing the CTX-M-15 ESBL.[10] Our observation of ST395 and ST307 clones (both coproducing KPC-3 and CTX-M-15 ESBL) suggests the changing epidemiology of KPC-Kp even in specific settings such as NICUs. In conclusion, we emphasize the need for active surveillance programs focused on CR-Kp in high-risk patients and wards, such as critical infants in NICUs. Surveillance data from colonization cases could be crucial to revealing the circulation of CR-Kp in the wards, to evaluating local epidemiology, and to improving control and prevention measures.

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Antibiotic Prophylaxis for Breast Oncosurgery in a Setting With a High Prevalence of Multidrug-Resistant Bacteria: Common Sense Infection Control Measures Are More Important Than Prolonged Antibiotics

To the Editor–Breast cancer is now the most common cancer in Indian women, with surgery being an essential treatment for all patients treated with curative intent. Although breast oncosurgery is considered a clean procedure, reported surgical site infection (SSI) rates are significant worldwide, ranging from 3% to 26%.[1–3] SSI increases morbidity, causes psychological trauma, and increases hospital-associated costs.[4,5] For a patient with a malignancy, infections may compromise oncological outcomes by causing delays in adjuvant chemotherapy or

TABLE 1. Univariate and Multivariate Analysis of Risk Factors of Surgical Site Infections

Variable[a]	No.	SSI (n = 69), No.	No SSI (n = 473), No.	Univariate *P* Value	Multivariate *P* Value	Multivariate OR	95% CI Lower	95% CI Upper
BMI ≥ 30	107	9	98	.20	.14	1.90	0.80	4.30
Diabetes mellitus	125	18	107	.50	.95	1.02	0.50	2.04
NACT	148	22	126	.40	.48	0.80	0.50	1.50
Recent diagnostic breast surgery	30	3	27	.60	.41	1.80	0.50	7.10
Reconstruction (pedicle flaps or free tissue transfer)	22	12	10	<.001	<.001	0.10	0.03	0.20
Discharge <24 h after surgery	246	30	216	.70	.80	1.10	0.60	1.90
Patients with 2 or more risk factors, %	90	11	79	.90	.50	0.70	0.30	1.80

NOTE. CI, confidence interval; NACT, neoadjuvant chemotherapy.
[a]Patients reporting regular smoking and alcohol intake were negligible so were not analyzed.

radiotherapy. The aims of this study were (1) to quantify SSI rates after breast oncosurgery in a cancer hospital in eastern India, (2) to identify significant preoperative variables associated with SSI, and (3) to explore the feasibility of early discharge following breast oncosurgery.

A single center, retrospective study was conducted from September 2011 to August 2013 at a tertiary-care oncology center. A consecutive series of data from the medical records of 542 surgical and postoperative patients was analyzed. Breast surgery procedures included lumpectomy, modified radical mastectomy, breast conservation surgery, reconstructive surgery and resurgery following initial surgery in other hospitals. All patients received a single preoperative dose of intravenous coamoxiclav 1.2 g (or cefuroxime 1.5 g if allergic to penicillin), given within 30–60 minutes before incision. Povidone iodine (10%) was used for skin disinfection. Occlusive dressings were applied after surgery and were only changed if soiled.

Treatment protocols included a plan for early discharge from hospital. Patients were discharged the day after the surgery in most cases or were discharged as soon as they were comfortable, with closed suction drains in place. Nursing staff demonstrated drain care, including daily emptying, to the patient and family on the first postoperative day. Patients were reviewed between 3 and 5 days after discharge, when dressings were removed, the wound was left open, and daily baths with soap and water were advised. Drains were removed when the output was below 50 mL. The follow-up period for identification of SSI was 30 days.

Centers for Disease Control and Prevention criteria were used to identify SSI, which meant cellulitis (redness/warmth/swelling by itself was not a criterion for superficial SSI.[6] Additional infection prevention interventions included (1) soap and water baths for patients before surgery, (2) handwashing and hand sanitizer training for patient care staff, (3) nurse-led discussion with patient and family on wound and drain care at home, (4) encouragement to bathe daily at home with soap and water, and (5) written instructions in the local language (ie, Bengali/ Hindi).

Of the 542 total patients, female patients comprised 99.3% of the cohort. Body mass index (BMI) was median, 24.21 kg/m^2; range, 12.8–50.7 kg/m,^{2} and 125 patients had diabetes mellitus (23%). Neoadjuvant chemotherapy (NACT) before chemotherapy was administered to 148 patients (27.3%). Also, 22 patients had immediate breast reconstruction (4.1%); 30 patients (5.7%) had a recent history of diagnostic breast surgery in another institution; and 2 or more risk factors were present in 90 of 542 patients (16.6%).

Furthermore, 69 of 542 patients had SSI (overall incidence, 12.7% with cellulitis and 4.8% without cellulitis). Organisms were isolated from infected surgical site wounds in only 26 patients (27.7% of the 69 patients with clinical diagnosis of SSI). The most common organism isolated was *Staphylococcus* spp (64%): 2 patients had methicillin-resistant *Staphylococcus aureus* (MRSA) and 2 had extended-spectrum β-lactamase (ESBL)–producing gram-negative bacilli. In our center, the MRSA bacteremia rate among inpatients is <1 per 1,000 inpatients, whereas the corresponding figures for third-generation cephalosporin–resistant bacteremia (20 per 1,000 inpatients) and carbapenem-resistant *Enterobacteriaceae* bacteremia (10 per 1,000 inpatients) are much higher. The median hospital stay following surgery for the whole study period was 2.1 days (range, 0–12 days), which was reduced to 1 day during the latter part of the study when the additional infection control interventions began to have greater effect. Common predictors of infection (eg, BMI, diabetes, previous diagnostic surgery, neoadjuvant chemotherapy) did not influence SSI, but patients who had reconstructive surgery had higher infection rates (Table 1).

We divided factors that contribute to SSI into 2 types. First, modifiable factors include surgical technique, glycemic control, patient hygiene, nutrition, smoking cessation, and standard infection control precautions, and are easier to control. Second, other risk factors include issues such as obesity and patient beliefs and habits, correction over a realistic period before surgery is difficult, if not impossible. Because many factors are beyond the control of surgeons, a "magic bullet" strategy is often followed to compensate for the difficulty in controlling risk factors. This strategy frequently involves prescription of antibiotics, which are called "prophylactic" but are continued for

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several days after surgery. The World Health Organization (WHO) Surgical Safety Checklist recommends the use of appropriate prophylactic antibiotics before surgery.[7] However, the choice of antibiotics and its duration is often based on the perceptions of individual surgeons, which can be influenced by the local prevalence of drug-resistant bacteria and incidence of SSI in the region.[8–10]

A recent Cochrane review supports the use of preoperative antibiotic prophylaxis for breast cancer, without significant adverse reactions compared with placebo or no treatment.[1] However, standard infection prevention protocols with focused implementation are more effective in controlling SSIs. Our study demonstrates that postoperative antibiotics can be avoided in most patients having breast oncosurgery, despite the high prevalence of resistant organisms in the hospital. Early discharge following surgery, with the involvement of a multidisciplinary team, is feasible in these circumstances, with relatively low surgical site infection rates.

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From Dusk to Dawn: Understanding the Impact of Ertapenem Resistance Mechanisms on the In Vitro Potency of Other Drugs Among *Enterobacter cloacae* Complex Isolates

To the Editor—Carbapenem-resistant Enterobacteriaceae (CRE) have become a global public health threat.[1] Although *Klebsiella pneumoniae* carbapenemase (KPC)–producing *Klebsiella pneumoniae* have been highlighted as the most prevalent CRE agent in most nosocomial infections, *Enterobacter cloacae* complex has been characterized as a second major pathogen in most surveillance studies presenting limited treatment options and high mortality.[2,3]

The most common carbapenem-resistant associated mechanism is carbapenemase production. The $bla_{\text{KPC-2}}$ gene occurs most predominantly in Brazil, whereas the $bla_{\text{KPC-3}}$ and $bla_{\text{OXA-48}}$ are most predominant in the United States.[3–5] However, extended-spectrum β-lactamases (ESBLs), *amp*C β-lactamase overproduction, and decreased outer membrane protein expression combined with an active efflux pump may also result in a similar phenotype, particularly when ertapenem is used as a marker for carbapenem-resistance.[6]

Enterobacter cloacae complex was the second most prevalent CRE following far behind KPC-producing *K. pneumoniae*, and the major discrepancies between them have been described in a previous study.[7] However, the impact of this phenotype on in vitro activity of other drugs has not been evaluated. Therefore, we conducted an analysis of *E. cloacae* complex isolates from inpatients to assess the impact of the "carbapenem-resistance profile," using ertapenem (ETP) as a marker, on the in vitro potency of other 10 antimicrobial agents.