Table 1. Summary of multivariable conditional logistic regression model with significant bivariate factors.

Variable	OR (95% CI)	P-value
Total parenteral nutrition[1]	-	-
Central venous access	6.85 (3.17, 14.83)	<0.001
Pancreatic disease	2.47 (1.16, 5.24)	0.019
Invasive procedure	1.33 (0.70, 2.53)	0.386
H2 blockers	1.89 (0.87, 4.11)	0.106
Antibiotic use	5.56 (1.46, 21.12)	0.012
Antifungal use	7.02 (3.57, 13.84)	<0.001

[1]TPN was excluded from the multivariable analysis due to independent correlation with CVA

antibiotic use, immunosuppression, and antifungal use. Bivariate conditional logistic regression models were used to study the association of individual factors with candidemia. Multivariable conditional logistic regression models were performed using factors with a P **Results:** Overall, 101 patients with candidemia and 505 matched controls were included. In the bivariate analysis, associations were detected between candidemia and TPN, CVA, pancreatic disease, invasive procedures, H_2 blocker use, antibiotic use, and antifungal use (all Ps **Conclusions:** Associations of candidemia with recent antifungal use and pancreatic disease were relatively novel findings. Neutropenia was not an independent risk factor for candidemia in this study. Future directions include further evaluations of previous antifungal use in patients with candidemia to identify opportunities for possible intervention and antifungal stewardship.

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Management of a large tuberculosis contact investigation related to a contaminated bone graft product used in spinal surgery

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Background: In March–April 2021, 23 patients at a 906-bed hospital in Delaware had surgical implantation of a bone graft product contaminated with *Mycobacterium tuberculosis*; 17 patients were rehospitalized for surgical site infections and 6 developed pulmonary tuberculosis. In May 2021, we investigated this tuberculosis outbreak and conducted a large, multidisciplinary, contact investigation among healthcare personnel (HCP) and patients potentially exposed over an extended period in multiple departments. **Methods:** Exposed HCP were those identified by their managers as present, without the use of airborne precautions, in operating rooms (ORs) during index spine surgeries or subsequent procedures, the postanesthesia care unit (PACU) when patients had draining wounds, inpatient rooms when wound care was performed, and the sterile processing department (SPD) on the days repeated surgeries were performed. We created and assigned an online education module and symptom screening questionnaire to exposed HCP. Employee health services (EHS) instituted a dedicated phlebotomy station to provide interferon-γ release assay (IGRA) testing for HCP at ≥8 weeks after last known exposure. EHS managed all exposed HCP, including nonemployees (eg, private surgeons) via automated e-mail reminders, which were escalated through supervisory chains as needed until follow-up completion. The infection prevention team notified exposed patients, defined as those who shared semiprivate rooms with case patients with transmissible tuberculosis. The Delaware Division of Public Health performed IGRA testing. **Results:** There were 506 exposed HCP in ORs (n = 100), the PACU (n = 87), inpatient units (n = 140), the SPD (n = 54), and other locations (n = 122); 83% were employed by the health system. Surgical masks and eye protection were routinely used during patient care. All exposed HCP completed screening by December 17, 2021. Furthermore, 2 HCP had positive IGRAs without symptoms or chest radiograph abnormalities, indicating latent tuberculosis infection, but after further review of records and interviews, we discovered that they had previously tested positive and had been treated for latent tuberculosis infection. In addition, 5 exposed patients tested negative and 2 remain pending. **Conclusions:** This large investigation demonstrated the need for a systematic process that encompassed all exposed HCP including nonemployees and incorporated administrative controls to ensure complete follow-up. We did not identify any conversions related to this outbreak despite high burden of disease in case patients and multiple exposures to contaminated bone-graft material and infectious bodily fluids without respirator use. Transmission risk was likely reduced by baseline surgical mask use and rapid institution of airborne precautions after outbreak recognition.

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Learnings from a *Cutibacterium acnes* pseudo-outbreak in pediatric neurosurgical patients

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Background: *Cutibacterium acnes* is normal skin flora as well as a common culture contaminant. It can cause infections in the setting of sterile implants, although clinical presentations can be subtle. Differentiating true infection from sample contamination is challenging and has implications for patient care. We describe an investigation of a cluster of 7 hospitalized pediatric patients with *C. acnes* isolated from anaerobic cultures of cerebrospinal fluid (CSF) over 3 weeks at a quaternary-care children's hospital. **Methods:** An outbreak response was coordinated between the infection prevention and control (IPC), microbiology, and neurosurgery teams. We defined a case as a hospitalized patient with *C. acnes* isolated from a CSF culture beginning in November 2020. We reviewed charts of all cases and CSF culture collection on all case units, transport to and processing at the microbiology laboratory, and the IPC team measured adherence for all processes. **Results:** There were 8 positive cultures in 7 cases from November 10 to 27, 2020. The median case age was 2 months (range, 0–119). Cases occurred on 4 different units. All positive patients had at least 1 implanted neurosurgical device used for CSF drainage. There were no clear commonalities in surgeon responsible for device placement, hardware type placed, or staff collecting CSF samples. A standard protocol for CSF collection was followed for all cases. Overall, 3 patients cleared cultures without intervention, 2 received oral antibiotics, and 2 underwent surgical removal of their device. Specimen processing was unchanged, although due to supply issues, an alternative anaerobic culture media (Anaerobic Systems, Morgan Hills, CA) was used for 6 weeks, during which all cases were identified. Compared to routine media, the alternative is known to enhance organism detection. The company reported no concerns for media contamination or *C. acnes* outbreaks. Once routine media

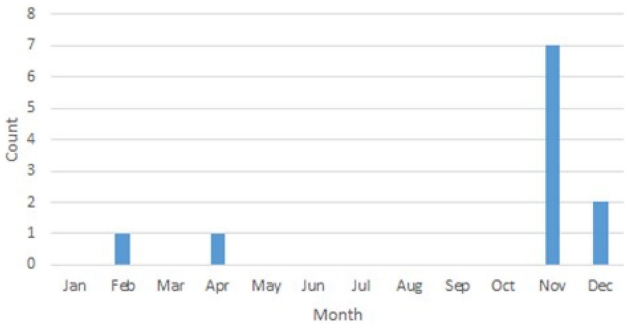

Fig. 1.