Escherichia vulneris associated suppurative lymphadenopathy

Victoria Starnes, Victoria Soewarna, Caitlyn Hollingshead

DESCRIPTION

A woman in her fifties with a medical history of gastro-oesophageal reflux disease, hypertension, type 2 diabetes mellitus presented after noticing a painful lump in her right axilla. Despite her primary care physician prescribing antibiotics and anti-inflammatories, she noticed that the lump continued to grow, and she developed subjective fevers and severe night sweats along with vomiting and diarrhoea. At this point, she was directed to seek hospitalisation.

She presented with right axillary painful lymphadenopathy. On physical examination, the patient was afebrile, appeared acutely ill and had tender adenopathy in the right axilla. The rest of the physical exam, including abdominal examination and breast exam, was unremarkable. Diabetes was well controlled with the most recent HbA1c being 6.7%. She denied any sick contacts or unusual exposures, such as contact with dead animals, fleas or rabbits. She recalled eating seafood and homecooked barbecue but denied any abnormal taste. Baseline laboratory parameters are as follows: CBC 6.4 × 10^9/L, haemoglobin 12.7 g/L, platelet count 139 × 10^9/L. Complete metabolic profile revealed mildly elevated glucose at 118 mg/dL and slightly elevated total protein at 8.2 g/dL, but was otherwise normal. C-reactive protein was 2.9 mg/dL (upper range of normal 0.744 mg/dL). CT of the chest performed in the emergency department revealed adenopathy in the right axilla with some inflammatory stranding (figure 1). Lidocaine patch was applied and empiric cefepime, vancomycin and ciprofloxacin were initiated for broad-spectrum coverage including tularaemia.

Blood cultures that were collected before starting broad-spectrum antibiotics on admission to the hospital revealed a non-lactose fermenting gram-negative rod (NLFGNR) later identified to be Escherichia vulneris (figure 2), and ciprofloxacin and vancomycin were discontinued. The isolate was susceptible to all beta-lactams, fluoroquinolones, trimethoprim-sulfamethoxazole and aminoglycosides. Given the unusual characteristics of this presentation, fourth-generation HIV testing was done and was found to be negative. Testing for toxoplasmosis was considered, however, was not done as it was decided to monitor the patient’s status as she was treated for the bacteraemia with no convincing alternative aetiology for the lymphadenopathy. The painful axillary lymphadenopathy improved significantly while hospitalised, and the patient was discharged on levofloxacin 500 mg every 24 hours for 7 days. Symptoms were found to be completely resolved on 2 week outpatient follow-up, with complete resolution of the right axillary adenopathy. Diarrhoea improved, abdominal pain resolved and there was no further fever or chills. Therefore, aspiration and biopsy of the lymph node and further testing were not pursued. The source was unclear but was suspected to be foodborne.

E. vulneris, formerly called enteric group 1, was described as a new species of Escherichia in 1982, found mainly in human wounds. E. vulneris is an opportunistic gram-negative bacterium, typically observed as an invasive infection in the immunosuppressed.
be resistant to one or more antimicrobial agents, including ampicillin, tetracycline and trimethoprim/sulfamethoxazole.

Cases of invasive E. vulneris infections are few and include meningitis,4 osteomyelitis,5 urosepsis,6 bacteraemia,7 peritonitis8 9 and septic shock.2 10 A review of the English-language literature revealed no other accounts of E. vulneris associated with suppurrative lymphadenopathy. The majority of patients were adults, and invasive infections were seen in the immunosuppressed, including patients with type 2 diabetes mellitus.11

Learning points

► The source of Escherichia vulneris is often unknown, though it has been found in association with urinary and peritoneal catheters, wooden foreign bodies, and PICC lines. It is important to investigate other sources of the bacterium, including foodborne.

► E. vulneris should be considered in patients that present with gram-negative bacteraemia and lymphadenopathy and should undergo susceptibility testing due to antimicrobial resistance.

► Infection with E. vulneris has been increasingly described in immunocompromised patients but may rarely cause bacteraemia in the seemingly immunocompetent.

Contributors Caitlyn Hollingshead planned the case report, participated in the patient’s care, and completed edits. Victoria Soewarna acquired patient information from the electronic health record and completed edits. Victoria Starnes compiled research and patient information to write the case report.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Consent obtained directly from patient(s).

Provenance and peer review Not commissioned; externally peer reviewed.

Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

ORCID iD
Caitlyn Hollingshead http://orcid.org/0000-0002-2806-1409

REFERENCES


Copyright 2022 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit https://www.bmj.com/company/products-services/rights-and-licensing/permissions/

BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:
► Submit as many cases as you like
► Enjoy fast sympathetic peer review and rapid publication of accepted articles
► Access all the published articles
► Re-use any of the published material for personal use and teaching without further permission

Customer Service
If you have any further queries about your subscription, please contact our customer services team on +44 (0) 207111 1105 or via email at support@bmj.com.

Visit casereports.bmj.com for more articles like this and to become a Fellow.