Primary B-cell Non-Hodgkin Lymphoma of Gallbladder Presenting as Cholecystitis

Sir,

Primary gallbladder lymphoma (PGBL) is defined as an extranodal lymphoma arising and confined to gallbladder with/without contiguous lymph node involvement and distant spread. Less than 50 cases of PGBL have been reported till 2010.[1]

A 48-year-old woman presented with malaise and sudden onset of abdominal pain. Her blood pressure was 118/80 mm Hg. Tenderness was present in the right upper quadrant of the abdomen. Laboratory tests revealed reactive HBsAg and serum creatinine 2.5 mg/dl, while other investigations were normal. Abdominal ultrasound showed irregular edematous gallbladder wall, multiple calculi and sludge particles suggestive of cholelithiasis, acute cholecystitis and empyema gallbladder. Sizeable retroperitoneal lymphadenopathy was absent. Patient underwent cholecystectomy elsewhere. Specimen was submitted to author AA. Grossly, gallbladder was 10 cm × 4 cm with multiple small yellow-brown multifaceted stones and normal velvety mucosa. Gallbladder wall was thickened (1.5–2 cm) with rubbery and gray white cut surface [Figure 1a]. Microscopically, intact gallbladder mucosa was infiltrated by lymphocytes and plasma cells. However, muscular and adventitial layers showed diffuse infiltrates of medium-sized atypical lymphoid cells with centrocyte and centroblast-like morphology [Figure 1b and c]. On immunohistochemistry, CD45 and CD20 positive B-cells expressing scattered positivity for bcl-2 [Figure 1d-f] and negative expression for CD3, CD5, CD15, CD23, CD30 and cyclin D1 were seen. A diagnosis of non-Hodgkin lymphoma (NHL) B-cell diffuse type, not further specified was made. Patient died on postoperative 2nd day.

This is an extremely rare occurrence of PGBL which was clinically diagnosed as cholecystitis, cholelithiasis and empyema of gallbladder. Most PGBLs clinically present with symptoms of cholecystitis.[2] Similarly, a clinically diagnosed acute cholecystitis with empyema turned out to be B-cell NHL of gallbladder.[3] Submucosal homogenous wall thickening of gallbladder in radiology correlate with pathological diagnosis of lymphoma.[4] For definite diagnosis, histopathology and immunohistochemistry are mandatory. Treatment options for PGBL include surgery with the use of chemotherapy in disseminated disease and inoperable cases.

ACKNOWLEDGMENT

Authors are sincerely thankful to Dr. Sanjay Navani of Mumbai for doing immunohistochemistry in this case.

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Access this article online

Quick Response Code:  
Website:  
www.jlponline.org
DOI:  
10.4103/0974-2727.154803

Staphylococcal Small Colony Variants from a Libyan Hospital

Sir,

Bacterial small colony variants (SCVs) are natural subpopulation developed by many bacterial species in response to several factors, including antibiotic use and environmental stressors.

These variants have been increasingly reported in various clinical samples, representing either persistent colonization, fatal infection cases in humans or cases related to antibiotic use in humans and animals.

Bacterial SCVs, particularly of staphylococcal species, are widely reported and characterized by small colonial growth and reduced to variable biochemical and virulence traits at genera and species level. These properties can significantly complicate the laboratory and diagnostic testing and may result in therapeutic failures.

A bacterial cultures of Gram-positive cocci (n = 5) of clinical sources from a hospital in Tripoli that developed subpopulation colonial growth, and atypical phenotypic characteristics were investigated for SCVs [Figure 1]. These were identified as Staphylococcus aureus (n = 2), Staphylococcus epidermidis (n = 1) and Staphylococcus hominis (n = 2) using the Vitek automated identification system using the typical growing colonies (wild type [WT]).

The isolates were grown overnight on sheep blood agar (Oxoid) supplemented with 5% NaCl and mannitol salt agar and incubated at 35°C for 48–72 h. Single small colonies from each culture were further tested and characterized as SCVs if they showed typical pinpoint growth (1/10 of typical growing colony) and reduced/variable hemolysis and pigmentation properties, following the recommendations of recent reports.

SCVs were continuously sub‑cultured on sheep blood agar for 7 consecutive days in order to observe the density of SCVs and the ability to revert into WT colonies. All isolates showed typical SCVs and variable phenotypic properties. SCV cultures showed reduced density after 5 days of sub‑culturing.

Staphylococcal SCVs have been widely reported from different clinical sources and largely associated with antibiotic therapies. The slow growth property and other variable phenotypic characteristics are associated with variable susceptibility to antimicrobial agents, which is sometimes transient, compromising the accurately of the laboratory testing.

The intracellular growth characteristics and reversion ability of SCVs into its WT are another laboratory complications and appear to occur regardless the selective pressures known to induce SCV formation.

The small studied isolates were from a hospital environment, and such stressful environment has likely contributed to the formation of SVCs.

Bacterial SCVs are a laboratory challenge, largely associated with antimicrobial therapies and limit the diagnostic and treatment options. Identification and characterization of SCVs depend largely on phenotypic and morphologic characterization using recommended laboratory procedures.

The information in this report should serve to alert hospital management teams and laboratory professionals of the difficulties associated with the identification of such variants and the high risk of misdiagnosis mainly in developing countries.

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Figure 1: Small colony variants growth and characterization on blood agar medium. (a and b) Staphylococci growth (SVCs and wild-type colonies)