Open Journal of
Clinical & Medical
Case Reports

Volume 10 (2024)
Issue 14

Case Report ISSN: 2379-1039

Elbow bursitis, spondylodiscitis and meningitis due to *streptococcus agalactiae:* A case report

Albuixech M; Villarejo A; Serrano M; Pérez Méndez MC; Lazzari R; Puig-Campmany M*

***Corresponding Author: Puig-Campmany Mireia**
Department of Medicine, Autonomous University of Barcelona, Sant Quintí 87, Barcelona 08025, Spain.
Tel: +34 935537568; Email: mpuigc@santpau.cat

Abstract

We present the case of a woman who consulted the Emergency Department for lumbar pain for 15 days, with fever in the previous 72 hours and confusion on the day she consulted.

The examination initially showed only fever, bradypsychia and a lesion compatible with bursitis in the left elbow. Blood cultures, cultures of the Elbow, lumbar puncture and study of the lumbar pain with CT were performed. She was diagnosed in the emergency department with *S. Agalactiae* sepsis, with lumbar spondylodiscitis, bursitis and meningeal involvement. Endovascular infection was ruled out. The treatment established allowed discharge with hospitalization at home after 14 days of intravenous treatment in the hospital.

As lessons learned in this case, first, the incidence of *S. agalactiae* infection in older adults is increasing, especially in those with comorbidities, and a high index of suspicion in the emergency department is needed. So, this possibility should be considered in case of febrile symptoms accompanied by subacute symptoms of the locomotor system, which may be mistakenly classified as mechanical in origin, until the onset of fever. Second, umbar CT for diagnosing spondylodiscititis in the early days of symptoms may not be enough sensitive, so other diagnostic tests (magnetic resonance imaging or PET CT are useful in ED).

Keywords: Bacterial infections; Sepsis; Streptococcal infections; Emergency department; Older adult.

Case Report

We present a 68-year-old woman with penicillin allergy (tolerant to third-generation cephalosporins, carbamepens) and anaphylactic shock after paclitaxel administration. Her only relevant history was a high-grade ovarian serous carcinoma with hepatic and retroperitoneal metastases, which underwent surgery six months earlier. She had recieved carboplatin since then.

She started lumbar pain 15 days before consulting the Emergency Department (ED). The pain was acute in onset, and had motivated a previous consultation in another ED. After performing a lumbar X-ray, she was discharged, diagnosed with mechanical low back pain and treatment with NSAIDs was indicated.

The pain did not improve, and the patient consulted our ED due to the onset of fever in the last 3 days, poor general condition and somnolence. She had not headache, cough, micturition syndrome, diarrhea or other symptoms other than back pain.

Physical examination showed she was prostrate, with fever (37.6ºC), blood pressure 120/60 mmHg, heart rate 89 bpm, respiratory rate 19 rpm, saturation of 99%, and GSC 15.

In the physical examination she had no adenopathies. Cardiorespiratory auscultation showed no respiratory sounds or heart murmurs. Skin and locomotor system examination showed a painful erythematous plaque on mobilization of the left elbow and pain on lumbar espinal palpation without skin lesions in that area. The neurological examination was normal.

The patient was diagnosed with left elbow bursitis, with possible associated bacteremia, and 1 g of Cetriaxone and 600 mg of intravenous Clindamycin were started immediately.

A basic CBC with blood gases and two serial blood cultures were immediately performed. Venous blood gases, showed Ph 7.47, pCO_2 54 mmHg, HCO_3 27 mEq/L, lactate 1.2 mMol/L. Urgent CBC showed hemoglobin 9.3 g/L; leukocyte count $10x10^9$/L with 67% neutrophils. C-reactive protein was 461 mg/dL, and procalcitonin was 0.40 ng/mL. Renal and liver function were normal, as was the ionogram. A urine sediment was negative.

A CT scan of the left elbow was performed and showed cellulitis on the posterior aspect of the forearm, with minimal bursitis (<10 mm). A cranial CT scan was also performed which was normal.

The laboratory reports gram-positive cocci growth in blood cultures 6 hours after the patient's arrival. On re-evaluation, possible nuchal rigidity was noted, with positive Kerning's and Brudzinski's signs.

A lumbar puncture showed hyperproteinuria of 1.29 g/L, hypoglycorrhachia of 1.5 mmol/L with 181 cells with 42% neutrophils, 40% lymphocytes and 18% monocytes, and the CSF gram showed no germs. The antibiotherapy was extended with Vancomycin 15 mg/Kg/12 hours, Ceftriaxone (1 gr) and Ampicillin 200 mg/Kg (2 gr every 6 hours).

With the diagnostic of gram-positive cocci bacteremia, left elbow bursitis, probable spondylodiscitis and meningeal involvement, the patient was transferred to ED observation unit for control.

The 2 sets of blood cultures were subsequently positive for *S. agalactiae* 24 hours after arrival at the ED, as well as the intrarticular fluid. Subsequent CSF culture was negative. The therapeutic regimen was adjusted with Ceftriaxone 2 g/12h.

While the patient remained under antibiotic treatment in the ED, a lumbar CT scan was performed which showed L4-L5 and L5-S1 degenerative disc disease, with a voluminous posterior hernia with superior migration in L5-S1 and stenosis of the right conjunctival foramen, also in L5-S1. The image was completed with a Positron Emission Tomography (PET CT) scan that showed a L5-S1 spondylodiscitis with discrete paravertebral and lumbar canal hypermatabolic soft tissue component, together with hepatic and supradiaphragmatic adenopathic tumor progression.

A trans esophageal echocardiography showed no abnormalities or presence of vegetations. After a correct evolution, she was transferred to the infectious diseases ward. Finally, she was discharge under home hospitalization until she completed 4 weeks of ceftriaxone 4 g per day.

S. Agalactiae is a Group B Streptococcus (GBS) that frequently colonizes cultures of the rectum, vagina, cervix, urethra, skin and pharynx and causes neonatal and puerperal sepsis. In adults, there is a rising incidence of 4.4 cases per 100,000 inhabitants, probably related to population aging and chronic diseases. The risk factors for invasive GBS infection are advanced age, diabetes, renal failure, cancer, liver disease and cerebrovascular disease.

In older adult, skin and soft tissue infections, non-focal bacteremia, urinary tract infections and, less frequently, endocarditis, central nervous system infections and osteo-articular infections stand out. GBS spondylodiscitis is predominantly male (2:1), between 55 and 70 years of age, with a predilection in the lumbosacral area. The most frequent predisposing factors are diabetes mellitus and neoplasias. CNS infection is rare, and almost always in the form of meningitis. It accounts for 0.3 to 4.3% of all bacterial meningitis. S.agalactiae, penicillin is the treatment of choice. The duration of treatment will vary according to the extent of invasive disease.

In the reported case, in *S.agalactiae* bacteremia with bursitis, spondylodiscitis and meningitis, infective endocarditis had to be ruled out. As for the clinical and analytical meningitis without germ, it could be explained by having received antibiotherapy on arrival at the ED, by continuity or by low inoculum.

Conclusion

As lessons learned in this case, first, we would like to emphasize that the incidence of *S. agalactiae* infection in older adults is increasing, especially in those with comorbidities, and a high index of suspicion in the emergency department is needed. So, this possibility should be considered in case of febrile symptoms accompanied by subacute symptoms of the locomotor system, which may be mistakenly classified as mechanical in origin, until the onset of fever. Second, it should be noted that lumbar CT for diagnosing spondylodiscititis in the early days of symptoms may not be enough sensitive, so other diagnostic tests such as magnetic resonance imaging or PET CT are useful in ED.

Ethical guidelines: The IIBSant Pau CEIC approved the review of this case. Informed consent was requested from the patient.

Conflict of interest: The authors declare that they have no conflicts of interest.

References

1. Armistead B, Oler E, Waldorf KA, Rajagopal L. The Double Life of Group B Streptococcus: Asymptomatic colonizer and potent pathogen. J Mol Biol. 2019; 431(16): 2914-31

2. Morven SE, Baker CJ. Group B Streptococcus bacterièmia in the elderly. Aging and Infectious Diseases. 2005; 41: 838-9.

3. Díaz-Gonzálvez E, Zarza B, Abreu P, Cobo J, Orte J, et al. Espondilodisctis y sacoroileítis por *Streptococcus agalactiae* en adultos: caso clínico y revisión de la literatura. Enfermedades Infecciosas y Microbiología Clínica. 2005; 23(2): 71-75.

4. Jackson L A, Hilsdon R, Farley M, Harrison L, Reingold, et al. Risk factor for group B streptococcal disease in adult. Ann intern Med. 1995; 123(6): 415-420.

5. Oyanguren B, Esteban L, Guillán M, de Felipe A, Alonso Cánovas A, et al. Afectación del sistema nervioso central en la infección invasiva por *Streptococcus agalactiae* en adultos. Neurología. 2015; 30(3): 158-162.

6. Farley MM, Harvey C, Stull T, Smith JD, Schuchat A, et al. A population-based assessment of invasive disease due to group B Streptococcus in nonpregnant adults. N Engl J Med. 1993; 328: 1807-11.

7. Gómez Rodríguez N, Penelas-Cortés Bellas Y, Chorén Durán ML, De la Puente MC. Pyogenic arthritis caused by *Streptococcus agalactiae*: report of four cases and a review of the literatura. Reumatol Clin. 2010; 6(3): 148-52.

8. Muñoz P, Llancaqueo A, Rodríguez-Créixems M, Peláez T, Martín L, et al. Group B streptococcus bacteremia in nonpregnant adults. Arch Intern Med. 1997; 157(2): 213-6.

Manuscript Information: Received: April 29, 2024; Accepted: May 27, 2024; Published: May 31, 2024

Authors Information: Albuixech M[2,3]; Villarejo A[1,2,3]; Serrano M[2,3]; Pérez Méndez MC[1,2,3]; Lazzari R[1,2,3]; Puig-Campmany M[1,2,3]*

[1]Departament de Medicina, Autonomous University of Barcelona, Bellaterra 08193, Spain.

[2]Emergeny Department, Hospital of the Holy Cross and Saint Paul, Barcelona 08025, Spain.

[3]Sant Pau Research Institute, Barcelona 08025, Spain.

Citation: Albuixech M, Villarejo A, Serrano M, Méndez PMC, Lazzari R, Puig-Campmany M. Elbow bursitis, spondylodiscitis and meningitis due to streptococcus agalactiae: A case report Open J Clin Med Case Rep. 2024; 2247.