

P1437 Anaerobic bacteria in brain abscesses: a ten-year retrospective analysis of resultsMárió Gajdács*¹, Edit Urbán¹¹ Institute of Clinical Microbiology, University of Szeged, Szeged, Hungary

Background: The aetiology of brain abscess is usually polymicrobial, involving a variety of aerobic and obligate anaerobic bacteria, therefore the investigation of anaerobes from brain abscesses is of great clinical importance. We report the frequency of brain abscesses pus aspirate specimens and the anaerobic bacteria isolated from these specimens in a tertiary-care teaching hospital in Hungary over a 10-year period (January 2008-December 2017).

Materials/methods: In the present study, the microbiological characterization of intra-operatively collected pus aspirates of brain abscesses, received from the Department of Neurosurgery was performed retrospectively. For the isolation of anaerobic bacteria, pus samples were inoculated onto the appropriate liquid and solid media, suitable for the cultivation of these microorganisms. Plates were incubated at 37°C for 5-7 days in an anaerobic chamber (Baker Ruskinn). Between 2008-2012, the identification of anaerobic bacteria was carried out using presumptive methods, Rapid ID 32A (bioMérieux) and VITEK 2 ANC cards (bioMérieux), while from 2013, MALDI-TOF MS (Bruker Daltonics) was introduced to the routine diagnostic workflow of anaerobic isolates.

Results: Out of 62 positive samples, 110 non-duplicate bacterial strains were isolated; in 37.09% of samples, two or more species were present. 52.73% of isolates were anaerobic bacteria, the most frequently isolated pathogens were Gram-positive anaerobic cocci (n=13), *Propionibacterium acnes* (n=8), *Actinomyces* sp. (n=7), *Prevotella* sp. (n=7) and *Campylobacter ureolyticus* (n=4). The history of the patients included a malignancy of the CNS in almost every case; their characteristics corresponding to positive samples were the following: average age 52.50±17.71 years (14-84) with males and females in equal numbers.

Conclusions: Anaerobic bacteria are commonly isolated from brain abscesses and clinicians should always consider their pathogenic role while deciding on antibiotic therapy for their patients. A high degree of suspicion, the physician's awareness of the underlying risk factors and the use of proper laboratory methods for the isolation and identification of these organisms is necessary for the appropriate management of these patients.

