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Editorial

Eradication of Chronic Osteomyelitis: Retrospective Analysis with Practical Applicability

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During the 1960s and 1970s, papers, treatises and specialized monographs mentioned that acute osteomyelitis is chronic. The therapeutic approach was aimed at an early diagnostic, which was usually established late or very late, and the mortality rate remained high. The treatment methods applied consist of antibiotics, trepanation and drainage. The complications were severe and overwhelmed patients with lifelong physical disabilities accompanied in some cases by mental disorders.

Sometimes patients were inexorably progressing to the exitus. Sanatoriums in maritime or mountain areas had hundreds of hospitalizations with patients treated for severe sequelae of chronic osteomyelitis: pathological hip dislocation, shortening of limbs up to 20 cm in size, pseudarthrosis with large bone defects, joint ankylosis, purulent fistulas [1], etc.

In Romania the fight to eradicate chronic osteomyelitis began in 1985 at the Mangalia Sanatorium and took place until 2005. Early diagnostic and treatment, in the first 24 - 72 hours, led to the healing of acute osteomyelitis with "restitutio ad integrum".

The general and local infectious syndrome guides the imaging scans and it is 3 weeks ahead of the radiological signs. For newborns, infants with severe weight loss, children with severe disease or genetic disorders, MRI scintigraphy highlights osteomyelitis foci or multiple foci. MRI sensitivity for osteomyelitis has generally been reported to be between 82% and 100%, and the specificity to be between 75% and 96% [2].

The PET-CT evaluation of osteomyelitis microbiologically verifies the primitive focus and the images have histomorphometric correspondence [3]. The tomographically detected densitometry differentiates, by corroboration with the clinical data, the infiltrative foci from the purulent ones. The sensitivity and specificity of CT for the diagnosis of osteomyelitis have not been clearly established and have values between 65% and 75%.

In older children, without major risks, punctures for diagnostic purposes, performed serially intraarticularly, in the peri-metaphyseal swelling or metaphyseal-intraosseous, certifies the stage of osteomyelitis. In the first 24 - 32 hours, the metaphyseal abscess is formed, at 72 hours it diffuses subperiosteally or intrarticularly in the shoulder or hip joint. At the level of the joints with extra-articular physis, the metaphyseal abscess affects the surrounding physis and diffuses intraarticularly after 10 - 12 days [4].

Infiltrative foci are treated with antibiotics only, 21 - 30 days, changed every 7 - 10 days to avoid germ resistance to antibiotics. Systematically, every 7 days the leukocyte count, C-reactive protein and ESR are assessed.

Purulent foci are treated with antibiotics and surgically by: trepanation, curettage and intraosseous aspiration lavage-drainage with betadine 5-10% solution, according to an original method [5]. In acute infection, lavage and surgical drainage significantly reduce the bacterial load in the osteomyelitis outbreak. There is a direct relationship between the amount of solution used and the reduction in bacterial load [6].

Germ sensitivity is assessed by culture and antibiogram and the effectiveness of the treatment by testing the minimum inhibitory concentration and the maximum effective concentration to establish a treatment that continuously ensures the minimum dose of bacteriostatics or bactericides.

Leukocyte counts, C-reactive protein and ESR are tested weekly to confirm progression to cure. Local bone lesions regenerate slowly and progressively after 3 months and reconfigure expressively at 1 year [7].

The training of specialized doctors from the County Centers was done at the ARTOP Pre-Congress Courses. The course "Diagnosis and Treatment of Acute Osteomyelitis" was taught every 2 years with the risk of repetition in exchange for saving the patient's life and avoiding redoubtable complications.

As a consequence, in the period of 2005 - 2016, in the annual reports of the Ministry of Health, there were no more cases of Chronic Osteomyelitis and Sequelae of Chronic Osteomyelitis.

The number of new cases of Acute Osteomyelitis was sporadic: 4 cases in 11 years. The eradication of Acute Osteomyelitis depends on a number of factors, the most important of which are social, economic, educational and the quality of primary care, which removes the so-called "gateway".

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