Sarcoidosis is a multisystemic inflammatory disease. The association between sarcoidosis and type 1 diabetes is rare. We report two cases of sarcoidosis associated with type 1 diabetes complicated by Charcot neuro-ostearthropathy.

A subject with type 1 diabetes complicated by peripheral and autonomic neuropathy presented cough and cervical lymphadenopathy. The chest computed tomography (CT) scan revealed bilateral hilar lymphadenopathy. A mediastinal tomography (CT) scan revealed bilateral lymphadenopathy. The chest computed tomography presented cough and cervical lymphadenopathy. The chest computed tomography (CT) scan revealed bilateral hilar lymphadenopathy. A mediastinal tomography (CT) scan revealed bilateral lymphadenopathy.

The local stromal cells are the major source of RANKL; recruitment and activation of macrophages and T-cells enhance the production of proinflammatory cytokines (TNF-α, IL-1, and IL-6) that stimulate RANKL expression in stromal cells, reducing bone mineral density. This “metabolic inflammatory” interplay allows to provide an explanation of the frequent presence of inflammatory stimuli (i.e., accidental trauma, local surgery, revascularization, orthopedic procedures, neuropathic ulcers, and infections) as trigger factors of acute CN. Several studies have shown the central role of inflammation in diabetes.

Hyperglycemia increases intracellular diacylglycerol content, which activates protein kinase C, which, through NF-κB, increases the expression of multiple inflammatory genes (i.e., IL-6, IL-1, and TNF-α) (3). Furthermore, autonomic dysfunction could disrupt the negative feedback control of inflammation by the autonomic nervous system (“the inflammatory reflex”), exacerbating inflammation (4).

Regarding sarcoidosis, several studies have shown high levels of TNF-α secretion from alveolar macrophages of patients with active diseases, and TNF-α inhibitors have been used in the treatment of sarcoidosis, suggesting the relevance of inflammation (5). Furthermore, high levels of parathyroid hormone-related peptide (PTHrP), linked to an alteration of calcium metabolism, have been shown in sarcoidosis. The high inflammatory milieu of such an association between diseases (diabetes and sarcoidosis) could interfere with the metabolic inflammatory balance in bone, enhancing the development of CN, whereas in other circumstances it represents a very rare complication of diabetes.

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