Management of osteo arthritis

Arthropathy therapy

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Background

CF patients are prone to five different types of arthropathy: association of Cystic Fibrosis with other known causes of joint disease, as gout (Horsley A, 2012), adverse effect of medications (above all ciprofloxacin), osteoarticular infection, hypertrophic pulmonary osteo-arthropathy (HPO) (Merkel PA, 1999) and arthritis considered unique to CF (cystic fibrosis-related arthropathy=CFA) (Turner MA, 1997). HPO, in which long bones alteration and clubbing are present with joint symptoms, usually starts at a mean age of 20 years, is mostly associated with lung disease deterioration and, as a rule, joint symptoms become more severe during respiratory exacerbations. CFA occurs in younger age (mean age of onset is 13 years), is not associated with a severe lung condition, neither to respiratory exacerbation; it may develop over 12-24 hours, with fever and skin manifestations and may spontaneously disappear over one week, even if it may become persistent and disabling.

Radiological changes are typical in HPO but they are often absent in CFA, even if a study (Fitch G, 2016) suggested that imaging (ultrasound and magnetic resonance) is able to identify inflammatory joint pathology in a considerable proportion of cases.

In the cohort study of patients included in the German CF registry (Grehn C, 2021) in 2016-2017 (6069 patients aged from to 0 to 78 years) CFA was observed in 4,9% of the patients and was significantly higher in adult patients, female gender, chronic P.aeruginosa infection, pancreatic insufficiency, sinusitis/polyps.

Althought CFA is relatively uncommon, it may have a severe impact of patients' quality of life (Achmoll A, 2022). So, the best management is important to define. In CF patients, however, only anedoctic experiences are available in the literature and, also recently (Clarke EA, 2019) the necessity to carefully consider arthritis in the context of CF has been stated, including appropriate up-to-date rheumatological assessment.

Issues

Symptomatic drugs efficacy (joint involvement and function, quality of life, laboratory inflammation markers must be considered as measurable outcomes) and safety (above all about gastrointestinal effects).

Disease-modifying anti-rheumatic drugs efficacy and safety for CFA.

What is known

One Cochrane review (Thornton J, 2012) investigated related to disease-modifying anti-rheumatic drugs (DMARD) efficacy and safety for CFA.

One Cochrane review investigated anti-inflammatory drugs and analgesics for managing symptoms in arthritis in Cystic Fibrosis (Thornton J, 2016) is available.

Both Cocrhane reviews did not find any RCT eligible to draw any conclusion about the argument.

A pilot multicenter randomized controlled trial (Levy VJ, 2019) evaluated the impact of osteopathic manipulative treatment (OMT) on musculoskeletal pain in adults and demonstrated that OMT was feasible, even if no significant difference between the treatment and the control groups had emerged.

Unresolved questions

Treatment strategy, safety and efficacy both to manage symptoms and to modify arthritis development. In particular it is important to determine if DMRDs treatment should be started at the earlier stages of the disease to prevent progressive damage as recommended in arthritis not associated with CF.

No RCT are ongoing.

Keywords

Arthritis-arthropathy;