ISOTRETINOIN AND SYNOVITIS-ACNE-PUSTOLOSIS-HYPEROSTOSIS-OSTEITIS (SAPHO) SYNDROME: A TRIGGER OR A TREAT(MENT)?

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Background and aims

The Synovitis-acne-pustolosis-hyperostosis-osteitis (SAPHO) syndrome is a rare disease characterized by chronic inflammatory osteoarticular symptoms and dermatological lesions such as severe acne. The pathogenesis is not well understood but it has been described as an autoinflammatory disorder. Its prevalence has been estimated as 1 in 10,000 in Caucasian populations. Isotretinoin represents the first choice treatment for severe acne in adolescents and it is largely employed in dermatology. It is indicated for the treatment of grade III nodular acne and grade IV *conglobata* or *fulminans*. Usual courses are six to nine months in duration and it is considered safe and effective. However, isotretinoin has been previously reported as trigger of sacroiliitis in SAPHO syndrome. The pathogenetic mechanism is not currently known, it has been suggested that the detergent-like properties of this drug could induce solubilization of the liposomal membrane and consequent cytopathic destruction causing arthritis.

Methods

The medical chart of an adolescent affected with acne and SAPHO syndrome has been reviewed.

Results

A 15-year old male complained a dramatic worsening of acne, he presented several cystic skin lesions with significant ulcerating and inflammatory component. Isotretinoin was started without benefit. In addition, the boy developed depressive symptoms associated with insomnia and irritability. Ten weeks later, he experienced severe low-back pain with progressive inability to walk. Laboratory investigations showed increased inflammation markers (CPR 7.15 mg/dl, ESR 84 mm/h, WBC 14,950/mmc, N70%). Pelvis and hip X-ray was normal. At the admission, empirical antibiotic therapy was started. MRI revealed bilateral sacroiliitis and osteitis. Isotretinoin was interrupted.

The presence of acne *fulminans* and osteitis suggested the diagnosis of SAPHO syndrome. Whole body MRI confirmed this hypothesis revealing anterior chest wall and axial involvement, including sacroiliac joint and spine. Consequently, intravenous antibiotics were interrupted. After the discharge, our patient pursued oral rifampin for the cutaneous lesions; NSAIDs were added in order to control inflammatory status.

MRI images showing sacroiliitis with osteitis

MRI images showing inflammation of sternoclavicular joints

Acne fulminans before and after treatment

Subsequently, the boy presented gluteal suppurative bilateral hidradenitis. In order to provide an adequate management of the systemic disease and the associated mood disorder, the patient has been managed by a multidisciplinary team including dermatologist, rheumatologist, psychiatrist and pediatrician. Therefore he was treated with adalimumab (40 mg/dose) with progressive improvement of cutaneous lesions and osteoarticular symptoms; his mood disorder has been well controlled with sertraline. Isotretinoin treatment was not reintroduced and antibiotics were stopped.

Conclusions

- The investigation of rheumatological association of patients who show acne and osteoarticular involvement, especially sacroiliitis, is indispensable. Prompt recognition of SAPHO syndrome is important to avoid unnecessary invasive procedures and prolonged antibiotic treatment.
- The association between isotretinoin and sacroiliitis has been already reported even if the pathogenetic mechanism is unclear.
- However, isotretinoin is a preferred treatment choice in patients with cutaneous manifestations in SAPHO syndrome, adopting the same protocol as in patients with acne.
- In our case, sacroiliitis developed after isotretinoin introduction. Its withdrawal did not relieve the symptoms. Based on the chronology of events, isotretinoin is highly suspected to be sacroiliitis trigger.
- Therefore, pediatricians approaching adolescents affected by acne and osteoarticular symptoms (especially if the axial skeleton is involved) should investigate the previous use of isotretinoin.
- Adalimumab has been successfully used in our patient as suggested from literature in those cases complicated by suppurative hidradenitis.

References

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