

Does prior bisphosphonate therapy in children and adolescents with disuse bone fragility alter surgical outcomes?

Numéro de l'offre de stage : No. 23

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Programmes d'études ciblés

Médecine.

Description du projet

Children with limited mobility such as cerebral palsy (CP) can experience spinal deformities and disuse osteoporosis. Bisphosphonates, an anti-resorptive therapy, can improve bone mineral density and prevent fragility fractures by inhibiting osteoclastic activity.

Current consensus guidelines recommend initiating bisphosphonates in children only when a diagnosis of osteoporosis is confirmed. However, it is our experience that some children with very low bone mineral density and no history of fractures receive bisphosphonates prior to major orthopaedic surgery in an attempt to optimize bone mineral density. Bisphosphonates reduce bone turnover, a necessary component of acute bone healing. Currently, it is unclear if

PROGRAMME DE STAGES D'ÉTÉ

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prior bisphosphonate use modifies post-operative complications in children with CP who undergo orthopedic surgery.

Our aim is to compare post-surgical complications in children with CP (or other conditions with reduced mobility) with and without previous bisphosphonate treatment.

This will be a retrospective observational cohort study that reviews children (< 18 y) with CP or other disorder with reduced mobility who underwent spinal surgery or hip surgery (with osteotomy).

Cases will be defined as: children with CP (or other condition with reduced mobility) who have **received ≥ 1 dose of Zoledronic acid** prior to surgical correction of their hip or spine deformity.

Controls: children with CP (or other condition with reduced mobility) matched to cases based on (where possible)

- age at surgery
- GMFCS (Gross Motor Functional Classification Scale)
- gender

Matching will be done by investigators blinded to post-surgical complications.

Complications will be divided into 3 categories: Fractures, hardware malfunction, and infection.

Primary outcome: percentage of any post-surgical complications

Unpaired T-Tests and Chi Square tests will be used to compare outcomes between groups.

Rôle du stagiaire

Revue de la littérature sur l'utilisation des bisphosphonates et les complications post-chirurgie orthopédique chez les enfants avec fragilité osseuse secondaire à une condition qui diminue la mobilité. Revue des dossiers, définition des cas et contrôles, extraction des données, et analyses descriptives.

Mots clés

Santé osseuse, enfants, ostéoporose, fragilité osseuse, bisphosphonates.