

## Incidence fraktur a volumetrická kostní denzita u dívek s Turnerovým syndromem: 6letá prospektivní studie



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### Context:

Patients with Turner syndrome (TS) are at risk for osteoporotic fractures. Objective: The aims of this study were to assess the incidence of clinically important fractures in girls with TS and prospectively describe the development of volumetric bone mineral density (BMD). Design: Peripheral quantitative computerized tomography (pQCT) of the radius every other year over the 6 years of observation. Setting: Government-funded university referral center. Participants: Thirty-two girls with TS, aged 6 to 16 years, were included in the analyses. Fracture incidence was compared with the data in the general population. Bone density and strength were compared with data from 185 healthy girls. Outcomes: The main clinical outcome was the fracture occurrence. The secondary outcomes were the changes in Z-scores of the bone parameters. Results: Three girls with TS sustained four fractures during 6 years of observation. The fracture rate in TS was not substantially higher than the downward-biased fracture-rate estimate from age-matched, healthy controls ( $P = 0.48$ ). Whereas the trabecular BMD Z-score decreased with age (beta estimate  $-0.21 \pm 0.04$ ,  $P < 0.001$ ), total bone cross-sectional area correspondingly increased ( $+ 0.16 \pm 0.04$ ,  $P < 0.001$ ), which led to normal bone strength. A positive history of incident fractures was not significantly associated with any of the pQCT-derived bone parameters. Conclusions: Current pediatric TS patients that are treated

with growth hormone and estrogens are not at risk for osteoporotic fractures. Low BMD in TS may be counterweighted by enlarged bone radius, which leads to normal bone strength at the appendicular skeleton.

<https://www.ncbi.nlm.nih.gov/pubmed/29300907>

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