KLINIČNI POMEN SLIKANJA HRBTENICE V STOJEČEM POLOŽAJU

CLINICAL IMPORTANCE OF SPINE IMAGING IN STANDING POSITION

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Prejeto/Recived: 12. 2. 2022
Sprejeto/Accepted: 17. 2. 2022

IZVLEČEK

Uvod: Slikanje hrbtenice je standardna slikovna metoda, ki dopolnjuje klinični pregled pacienta z bolečinami v hrbtu. Redno jo uporabljamo pri pacientih z deformirano hrbtenico, ki se običajno bolj zavedajo bolečinskih simptomov, medtem ko stojijo, in ne toliko, ko ležijo. Zato je slikanje v stoječem položaju ključno za pridobitev informacij o dejanskem stanju hrbtenice.

Namen: V prispevku so opisani klinični razlogi za napotitev pacienta z deformirano hrbtenico na rentgensko slikanje in možnosti izboljšanja rentgenske slikovne diagnostike v klinični praksi.

Metode: Pregled literature in opis primera. Primer pokaže razliko med rentgenogrami ledvene hrbtenice iste pacientke, slikane v ležečem in stoječem položaju.

Rezultati: Raziskave izpostavljajo statistično značilne razlike med meritvami v stoječem in ležečem položaju pri rentgenski preiskavi hrbta. Najbolj očitne razlike so pri oceni ledvene lordoze, Cobbovem kotu, rotacijami vretenc, nagibu medenice, zdrsu vretenc in zožitvi intervertebralnih foramnov.

Razprava: Prikazane deformacije hrbtenice se bodisi zaradi sile gravitacije bodisi zaradi naravne rotacije vretenc razlikujejo glede na to, ali pacient leži ali stoji. Glede na raziskave to sovpada z bolečinsko simptomatiko pacienta z deformacijo hrbtenice, zato bi bilo smiselno slikati hrbtenico takšnega pacienta v stoječem položaju, če zdravstveno stanje pacienta to omogoča. Slikovni sistem EOS predstavlja dobro izbiro, če si ga lahko privoščimo, saj omogoča hkratno zajemanje frontalnega in lateralnega rentgenograma.

Zaključek: Analiza literature potrjuje klinični vtis, da se na rentgenogramih hrbtenice v stoječem položaju večina deformacij prikaže v večjem obsegu kot pri ležečem položaju. Zato je pri kliničnem pregledu pacienta z bolečino ob prisotni deformaciji hrbtenice smiselna uporaba rentgenske preiskave hrbtenice stoje, ko je to mogoče in ob upoštevanju načel ALARA (angl. *as low as reasonably achievable*). Pri tem si lahko pomagamo s pripomočki za stabilizacijo pacientov.

Ključne besede: slikanje stoje, deformacija hrbtenice, slikanje hrbtenice, lordoza, skolioza

ABSTRACT

Introduction: Spine x-ray imaging represents a standard x-ray imaging technique as part of a clinical examination of patients with spine deformities when experiencing back pain. These patients with spine deformities are usually more aware of symptoms when standing and not as much when lying down. Therefore, taking x-rays while standing is crucial to obtain important information about the actual condition of the spine.

Purpose: The paper describes clinical reasons for appointing a patient with a deformed spine on X-ray imaging and possibilities of improving X-ray imaging diagnostics in clinical practice.

Methods: Literature review and case description. The case shows the difference between lumbar spine radiographs of the same patient, taken in the supine and standing position.

Results: The studies highlight statistically significant differences between standing and lying down X-rays image measurements. The most obvious differences are in lumbar lordosis, Cobb angle, vertebral rotations, pelvic tilt, vertebral slippage, and foramen narrowing.

Discussion: The radiographs of spine deformities differ when the patient is lying down or standing up because of gravity load or the natural rotation of the vertebrae. According to the research, this coincides with the pain symptoms of a patient with spinal deformity, so it would make sense to use X-ray imaging of the spine in such a patient in a standing position if the patient´s medical condition allows it. EOS technology is a good option if it can be afforded, because it allows simultaneous acquisition of frontal and lateral images.

Conclusions: An analysis of the literature confirms the clinical impression that most deformities appear on the radiographs of the spine in the standing position largely than in the supine position. Therefore, in the clinical examination of a patient in pain in the presence of spinal deformity, it is clinically justified to use X-ray examination of the spine standing up, when possible and taking into account the principles of ALARA (as low as reasonably achievable). Patient stabilization aids can help.

Keywords: standing x-rays imaging, spine deformation, lordosis, scoliosis

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