

# NAKLJUČNE NAJDBE PRI MAGNETNORESONANČNEM SLIKANJU LEDVENE HRBTENICE

## INCIDENTAL FINDINGS OF THE LUMBAR SPINE AT MAGNETIC RESONANCE

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### IZVLEČEK

**Uvod:** Naključna najdba je predhodno nepoznana in nepričakovana sprememba, ki ni povezana z namenom opravljene preiskave, vendar ima potencialno kliničen pomen. Naključne najdbe so lahko benigne ali maligne bolezenske spremembe, lahko so pomembnejše od bolezni, zaradi katere je pacient napoten na magnetno resonanco (MR) ledvene hrbtenice (LS).

**Namen:** Namen prispevka je raziskati pojavnost in vrsto ugotovljenih naključnih najdb pri pacientih, ki so napoteni na MR LS zaradi suma hernije medvretenčne ploščice v Ortopedski bolnišnici Valdoltra (OBV) v dveh različnih obdobjih, in sicer leta 2019 in leta 2022. Vključili smo najdbe, ki so prisotne v ledvenem predelu hrbtenice: hemangiome, tarlove ciste, sinovialne ciste, sakralne meningokele, tumorje ter vnetja. Na podlagi sistematičnega pregleda literature je bil glavni cilj izvedeti, kakšna so odstopanja oz. podobnosti v rezultatih z ostalimi raziskavami, ki so bile izvedene v tujini.

**Metode dela:** V sklopu sistematičnega pregleda literature je bilo pregledanih in analiziranih 14 člankov, ki se navezujejo na temo naključnih najdb pri MR LS preiskavah. Drugi del raziskave je bil retrospektiven. Zajemal je paciente OBV, ki so bili napoteni na MR LS preiskavo zaradi suma na hernijo medvretenčne ploščice. Raziskava je vključevala 1753 pacientov. Število pacientov glede na spol in starost smo prikazali s pomočjo kontingenčnih tabel, za opis smo uporabili frekvence. Deležje smo med seboj primerjali s hi-kvadrat testom.

**Rezultati:** Odstotek ugotovljenih naključnih najdb je bil 15 % (264 primerov). Najpogosteje so bili diagnosticirani vertebralni hemangiomi (10 %, 169 primerov). Odstotek diagnosticiranih tarlovih cist je bil 3 % (58 primerov), sinovialnih cist pa 2 % (34 primerov). Pri enem pacientu so diagnosticirali sakralno meningokelo, pri 2 pacientih so diagnosticirali tumor hrbtenice. Vnetje ledvene hrbtenice ni bilo naključno diagnosticirano pri nobenem pacientu, ki je bil vključen v raziskavo. Najmanjši ugotovljen odstotek naključnih najdb v tuji literaturi je bil 7,8 %, največji odstotek 34,2 % [95 % CI: 14,8 %; 25,8 %], povprečen odstotek naključnih najdb pa 20,3 %.

**Razprava in zaključek:** Naključne najdbe so bile pogoste in povezane s starostjo in spolom ( $p < 0,05$ ). Večina je bila benignih najdb. V raziskavi smo ugotovili, da imajo naključne najdbe pomembno vlogo pri razvoju in napredku zdravstvene znanosti in klinične prakse.

**Ključne besede:** magnetna resonanca, ledvena hrbtenica, naključne najdbe

### ABSTRACT

**Introduction:** An incidental finding (IF) is a previously unexpected lesion that is unrelated to the reason of the examination but has potential clinical significance. During the magnetic resonance imaging (MRI) of the lumbar spine (LS), various IF can be observed in the spinal column and extraspinal tissues.

**Purpose:** The aim of this study was to evaluate and analyse the incidence and type of spinal IF in patients referred for LS MRI due to suspected herniated intervertebral disk disease. Our study population included patients from Valdoltra Orthopaedic Hospital (OBV) who underwent imaging between 2019 and 2022. Vertebral haemangioma, Tarlov cyst, synovial cyst, sacral meningocele, discitis of the lumbar spine and spinal tumours were included. Based on a systematic review of existing literature, the main objective was to identify similarities in the results with other studies performed abroad.

**Methods:** As part of a systematic literature review, 14 articles related to IF in LS MRI examinations were analysed. The second part of the study was retrospective, involving 1,753 patients from OBV who were referred for LS MRI examination because of clinically suspected herniated intervertebral discs. The number of patients according to age and gender was displayed using contingency tables, while frequencies were used for description. The chi-square test was used for the analysis of the relationship of IF with patient characteristics.

**Results:** Overall, IF were present in 264 patients (15%). Vertebral haemangiomas were the most common IF (169 patients or 10%), followed by Tarlov cysts (58 patients or 3%) and synovial cysts (34 patients or 2%). One patient was diagnosed with sacral meningocele and two patients were diagnosed with spinal tumours. No lumbar spine inflammation was diagnosed incidentally in any of the patients included in the study. The lowest reported incidence of IF in previous studies was 7.8%, the highest incidence was 34.2% [95% CI: 14.8%–25.8%]. The average of IF in previous studies was 20.3%.

**Discussion and conclusions:** IF in LS MRI were common and associated with age and gender ( $p < 0.05$ ). Most of them were benign findings. IF play a crucial role in improving medical practice and discovering new approaches to treatment.

**Keywords:** MRI, lumbar spine, incidental findings, incidental lesions

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