

## Implant selection in cervical spondylodiscitis plays a non-detrimental role - a single-center retrospective case series of 24 patients [Abstract]

Stefan Motov, Bastian Stemmer, Phillip Krauss, Maximilian-Niklas Bonk, Christina Wolfert, Kathrin Steininger, Björn Sommer, Ehab Shiban

### Angaben zur Veröffentlichung / Publication details:

Motov, Stefan, Bastian Stemmer, Phillip Krauss, Maximilian-Niklas Bonk, Christina Wolfert, Kathrin Steininger, Björn Sommer, and Ehab Shiban. 2023. "Implant selection in cervical spondylodiscitis plays a non-detrimental role - a single-center retrospective case series of 24 patients [Abstract]." *Brain and Spine* 3 (Supplement 1): 102092.  
<https://doi.org/10.1016/j.bas.2023.102092>.

diagnosis of spinal cord tumors in the future.

501

BRAIN AND SPINE 3 (2023) 101794 102092

# IMPLANT SELECTION IN CERVICAL SPONDYLODISCITIS PLAYS A NON-DETRIMENTAL ROLE - A SINGLE-CENTER RETROSPECTIVE CASE SERIES OF 24 PATIENTS

Stefan Motov<sup>1,2</sup>, Bastian Stemmer<sup>2</sup>, Phillip Krauss<sup>2</sup>, Maximilian-Niklas Bonk<sup>2</sup>, Christina Wolfert<sup>2</sup>, Kathrin Steininger<sup>2</sup>, Björn Sommer<sup>2</sup>, Ehab Shiban<sup>2</sup>. <sup>1</sup> *Klinik für Neurochirurgie Kantonsspital St. Gallen, Switzerland;* <sup>2</sup> *Klinik für Neurochirurgie, Universitätsklinikum Augsburg, Germany*

Oral e-Poster Presentations - Booth 3: Spine 2 (Tumors), September 26, 2023, 4:10 PM - 4:50 PM

**Background:** Cervical spondylodiscitis is an uncommon entity, with an incidence of 0.5 to 2.5 per 100.000 population, which is potentially extremely harmful. This type of discogenic and vertebral infection might cause a high rate of neurological impairment. Radical surgical debridement of the infected segment with fusion and intravenous antibiotic regimen remains the gold standard in most spine centers. We aimed to analyze the overall outcome in a tertiary spine center.

**Methods:** In this study, we retrospectively included all patients suffering from cervical spondylodiscitis between 01/2017 and 05/2022, treated at the university hospital of Augsburg. Clinical and radiological parameters as well as type of implant were collected and evaluated. Descriptive statistics were performed using SPSS, and relevant correlations were examined using the t-test for independent samples and the Chi-square test.

**Results:** 24 patients were identified and included. 17 patients (71%) suffered from sepsis on admission, 17 patients (71%) were diagnosed with epidural abscess on primary imaging and 5 patients (21%) had more than one discitis focus in a distant spinal segment. The presence of epidural abscess was significantly associated with systemic sepsis (OR=6.2; p=0.03) and myelopathy symptoms (OR= 14.4; p=0.00). Septic status was significantly associated with the occurrence of discitis in other spine segments (p=0.02), higher CCI (p=0.03) and Clavien Dindo scores (p=0.01), as well as a longer ICU stay (p=0.04) and the occurrence of nonunion (p=0.06). The most commonly detected germ was a multisensitive staphylococcus aureus (10 patients, 42%). A total of 6 patients (25%) died after a median of 20 days despite antibiogram-accurate therapy. The follow-up data of 15 patients (63%) was available with the evidence of permanent neurological damage in 9 patients (38%). The type of osteosynthesis was not significantly associated with subsidence (p=0.13), nonunion (p=0.21) or revision surgery (p=0.20). However the extent of instrumentation correlated significantly with the rate of nonunion (p=0.05).

**Conclusions:** Cervical spondylodiscitis presents a severe infectious disease that occurs in multimorbid elderly patients and, despite adequate surgical and antibiotic treatment, is often associated with permanent neurological damage or a fatal outcome. Implant selection did not play a decisive role for the clinical and radiological outcome in this study.

647

BRAIN AND SPINE 3 (2023) 101794 102093

# HEMILAMINECTOMY VERSUS LAMINECTOMY FOR RESECTION OF SPINAL MENINGIOMAS

Wesam Said<sup>1</sup>, Marco Gallus<sup>1</sup>, Emanuele Maragno<sup>1</sup>, Dorothee Spille<sup>1</sup>, Michael Schwake<sup>1</sup>. <sup>1</sup> *University Hospital Münster, Germany*

Oral e-Poster Presentations - Booth 3: Spine 2 (Tumors), September 26, 2023, 4:10 PM - 4:50 PM

**Background:** Bilateral laminectomy and unilateral hemilaminectomy are common approaches for the resection of spinal meningiomas. Hemilaminectomy is considered less invasive as it may avoid post laminectomy kyphosis, therefore our aim was to evaluate the extent of tumor resection achieved by hemilaminectomy compared to laminectomy.

**Methods:** We conducted a retrospective cohort analysis of all spinal meningiomas treated at our academic neurosurgical department between 1996 and 2021. The extent of resection was defined according to the Simpson classification. Simpson grade 1 and 2 were considered as gross total resection (GTR) and Simpson grade 3 to 5 as subtotal resection (STR).

**Results:** In 28% (35/126) of spinal meningioma resections a laminectomy was performed, while in 72% of the cases a hemilaminectomy 91 (126) was chosen as

surgical approach. In the hemilaminectomy cohort GTR was achieved in 83.5% (N= 76) of the cases, which was equivalent to the rate observed in the laminectomy cohort (N= 29, 83%; P>0.99).

**Conclusions:** Unilateral hemilaminectomy seems to be as effective as the more invasive bilateral laminectomy for achieving GTR of spinal meningiomas.

651

BRAIN AND SPINE 3 (2023) 101794 102094

# QUALITY OF LIFE AND FUNCTIONALITY AFTER RESECTION OF SPINAL MENINGIOMAS

Wesam Said<sup>1</sup>, Marco Gallus<sup>1</sup>, Emanuele Maragno<sup>1</sup>, Dorothee Spille<sup>1</sup>, Walter Stummer<sup>1</sup>, Michael Schwake<sup>1</sup>. <sup>1</sup> *Universitätsklinikum Münster, Germany*

Oral e-Poster Presentations - Booth 3: Spine 2 (Tumors), September 26, 2023, 4:10 PM - 4:50 PM

**Background:** Resection of juxtamedullary meningiomas can be demanding and little is known about the quality of life (QOL), the functionality of these patients, as well risk factors that influence a better outcome.

**Methods:** Patient's outcome was assessed by established questionnaires such as short Form Survey-36 (SF-36), Oswestry Disability Index (ODI) and Neck Disability Index (NDI), as well as by postoperative physical examination at our academic neurosurgical department.

**Results:** 39 patients completed the questionnaires. Most of the patients (69.2 %, N=27) reported very good postoperative conditions in the ODI and NDI (score < 10). Overall QOL was comparable to results of the normal healthy population. Favorable functional and neurological outcome was associated with mild pre-operative symptoms (McCormick scale 1 and 2; P<0.05). Unfavorable outcome occurred in those patients that displayed severe preoperative deficits (McCormick scale > 4) and in those suffering from other medical diseases.

**Conclusions:** Resection of spinal meningiomas results in the majority of the cases in a favorable outcome. Our results indicate that tumor resection in early stage of the disease may lead to a better outcome.

833

BRAIN AND SPINE 3 (2023) 101794 102095

# OPERATIVE TREATMENT FOR SACRAL PERINEURAL CYSTS – OUTCOMES AND COMPLICATIONS OF 97 CONSECUTIVE PATIENTS WITH TARLOV CYSTS

Delshad Abdi<sup>1</sup>, Jukka Huttunen<sup>1</sup>, Ville Leinonen<sup>1</sup>, Sakari Savolainen<sup>1</sup>, Nils Danner<sup>1</sup>. <sup>1</sup> *Kuopio University Hospital, Kuopio, Finland*

Oral e-Poster Presentations - Booth 3: Spine 2 (Tumors), September 26, 2023, 4:10 PM - 4:50 PM

**Background:** Tarlov cysts are cerebrospinal fluid filled spinal meningeal cysts which are typically found in the sacral region. They are usually regarded as incidental findings but may also produce symptoms presenting as lower back pain, radiculopathy or genitourinary dysfunction. Due to their dualistic nature there are very few large-scale systematic studies on the treatment and outcome of Tarlov cysts. Therefore we conducted a retrospective study on all consecutive patients operatively treated for Tarlov cysts between 1995 and 2020.

**Methods:** Patient records were scanned and reviewed to identify all patients who were operated for Tarlov cysts during the study period. Data on preoperative symptoms, radiological findings, operative details, complications and follow-up were collected. The outcomes were categorized according to the modified Mac-Nab criteria and dichotomized as "improvement" (excellent and good) vs. "no improvement" (fair and poor).

**Results:** Demographic data, symptomatology and outcomes are summarized in Table 1. We identified 97 patients the age whom ranged from 24 to 73 years. The operation technique, if applicable, consisted of wrapping and reconstructing the parent nerve root with a non-resorbable dural substitute. A mere cyst resection was performed if the cyst was adherent to adjacent nerve roots or too large. The length of the hospital stay was 3.9 ± 3.0 days (mean ± SD) and the length of the follow-up was 19.7 ± 32.9 months (mean ± SD). The most common complication was postoperative CSF leak (10.3%). The outcomes were categorized as follows: 36 (37.5 %) excellent, 37 (38.5 %) good, 14 (14.6 %) fair and 9 (9.4 %) poor.

**Conclusions:** A good outcome was achieved in 75% of patients and only 9.3% had a poor outcome. Prior lower back surgery was more often associated with an unsatisfactory outcome, whereas patients with preoperative lower back or sacral pain experienced better outcomes.