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Friday 30th October 2020



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Is Interdisciplinary Spine Care an added value? Models and experience from three different settings

Moderator: Bruno Leroy

09:00 **The surgeons experience**
Lieven Moke, UZ Leuven, Leuven

09:10 **The algologists experience**
Koen Van Boxem, ZOL, Genk

09:20 **The PMR specialists experience**
Katrine Sauer, GZA, Antwerp

09:30 **Q & A**

Controversies in Surgical and Conservative Treatment of Low Back Pain.

Moderator: Gaëtane Stassijns

9:40 **A critical view on exercise therapy**
Lieven Danneels, UZ Gent, Ghent

10:05 **Surgical treatment of adult deformities**
Marinus De Kleuver, Radboud Ziekenhuis, Nijmegen

10:30 **Conservative treatment of adult deformities**
Fabio Zaina, ISICO, Milan

10:55 **Q & A**

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Patient Centered Care and the role of Pathways and Proms

Moderators: Dieter Peuskens and Dominique Verhulst

11:10 **A patient-centered approach towards patients with low back pain**
Anne Berquin, UCL Saint Luc, Brussels

11:20 **Experience from patient focus groups in the KCE studies**
Anja Desomer, Belgian Health Care Knowledge Centre

11:30 **Place of PROMS in patient centered care**
Bart Depreitere, UZ Leuven, Leuven

11:40 **Proms and Preams: present and future**
To be confirmed

11:50 **Digital clinical pathways: turning patients into active participants**
Thomas Vande Castele, Awell Health, Brussels

12:00 **Q & A**

12:15 **Poster Prize and Presentation**
Patrick Van Schaeybroeck, Imeldaziekenhuis, Bonheiden

**Multidisciplinary rehabilitation for chronic neck pain:
a single-center retrospective analysis of real-world data.**
Manon Moyaert, UZ Leuven, Leuven

Keynote Lecture

Introduction: Everard Munting

12:25 **Status questionis and current policy topics with regard to spine care in Belgium**
Omer Vanhaute / Pedro Facon, Ministry of Health



**12:50
and**

**Closing Remarks: The Future of Spine Care in Belgium
the Role for the Ssbe**

SELECTED ABSTRACTS



BIG Data: what can we learn from a retrospective study on 959 spine surgeries with a follow-up of 15 years?

Plazier M.^{1,2,3}, Raymaekers V.⁴, Donkersloot P.^{1,2}, Put E.^{1,2}, Wissels M.^{1,2}, Vanvolsem S.^{1,2}, Roosen G.^{1,2}, Bamps S.^{1,2}, Coeckelberghs E.⁵, Sermeus W.⁵, Vanhaecht K.⁵, Duyvendak W.^{1,2}

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Introduction

Low back pain (LBP) has a lifetime prevalence of 84% and imposes a high economical burden. Treatment is focused on preventing chronic pain. Research has shown the efficacy of treatment options. However, less is know about who benefits the most from which therapy and when they should be positioned in the treatment algorithm.

Aim

The aim of this study was to investigate the patients flow and need for additional surgery after first low back surgery. Next we analysed the patients who developed chronic LBP and were treated with SCS.

Methods

In this retrospective study, data of all patients who underwent first time surgery from 2000 to 2004 were included. After 10-15 year patients were contacted about their quality of life (EuroQoL-5D) and life and heath perception (EQ-VAS).

Results

959 patients underwent surgery at the lower back area. Follow-up time ranged from 13 to 17 years. 225 patients (23.5%) underwent a second surgery. In total 20 patients (2,1%) developed chronic neuropathic back pain and received SCS therapy. Ten years post-surgery, 438 (45,7%) patients completed the QoL and low back pain questionnaires. The health-related quality of life and health situation were significantly lower in patients with multiple surgeries ($p < 0,001$).

Conclusion

The study results indicate that large data sets, with multiple outcome measurements and long-term follow-up are necessary to improve our knowledge and to optimize the therapeutic pathway. In that way we might learn how to select a patient for the right treatment or treatments at the right moment and shorten the circulation in our health-care system

Acknowledgements

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How to implement an enhanced recovery programme after spinal surgery

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Introduction

Although the concept of enhanced recovery after surgery is well known after colorectal surgery, its implementation for spinal surgery in daily practice remains difficult.

Results

We discuss the difficulties and the barriers to the development of enhanced recovery program (ERP). The barriers to implementation are multifactorial and depend on different actors in these programs: surgeons, anesthetists, nurses, patients and administration.

The solutions exist and are based on multidisciplinary discussions. Care pathways must be redesigned from a to z and we have to force ourselves to leave our comfort zone.

Conclusions

ERP implementation continues to face mainly the lack of trust and communication. Solutions exist and are based in particular on teamwork and interdisciplinarity collaboration.

Patients are not the most difficult to convince, but caregivers much more.



Bertolotti's syndrome: The importance of a multidisciplinary approach in the treatment of lower back pain

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Introduction

Bertolotti's syndrome (BS) comprises a congenital anomaly in which sacralization of the last lumbar vertebra occurs through fusion of the transverse process(es) with the first sacral segment. BS is not uncommon with a prevalence of 12%. It is characterized by invalidating lower back pain without pain radiation. Mean age at presentation is 46 years. Since multiple other conditions (sacroiliitis, facet joint pain, discogenic pain) can coexist, BS forms an excellent illustration on the importance of a multidisciplinary approach.

Case presentation

A 54-year old man was referred to our Neurosurgical department as a result of debilitating lower back pain. He described a constant aching pain, lateralized to his right side. No sciatica or leg abnormalities were mentioned. Examination of his medical records revealed L4-L5 microdiscectomy (2009).

Clinical examination showed vertebral tenderness at the lower lumbar segments, more pronounced at the right side. Since monosegmental discopathy was initially suspected, SPECT-CT and dynamic x-rays were performed. These showed hypercaptation at the right L5 transverse process and sacroiliac joint, reflecting active pseudoarticulation.

We referred our patient to the pain clinic for periarticular infiltration. Meanwhile, rehabilitation with postural education was organized. Our patient's lower back pain resolved completely, therefore no further neurosurgical follow-up was provided.

Conclusions

Diagnosis and management of BS is complicated by multiple factors. Firstly, it is not uncommon that other causes of lower back pain coexist, complicating the diagnosis. Secondly, clinical presentation can be diverse (sacroiliac, hip, groin pain, pseudo-radiculopathy). Lastly, there is no treatment consensus, ranging from physiotherapy, periarticular infiltrations to minimally invasive pseudojoint resection. In short, BS illustrates the importance of a multidisciplinary approach in the treatment of lower back pain.



Paravertebral structures: Blind spot on spine MRI images

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Introduction

When focusing at the vertebral column, disk, spinal canal and foramina, one may skip looking at the paravertebral structures on spine MR images. However, some lesions in the paravertebral structures may have direct impact on patient care by changing the clinical pathway.

Purpose/Aim

The purpose of this poster is to demonstrate different kinds of lesions that can be noted in the paravertebral structures.

Materials and Methods

A radiologists' database of interesting spine MRI cases was screened for lesions in the paravertebral structures. These lesions were evaluated and classified in several ways: per organ, per type of pathology and per clinical significance.

Results

A total of 56 cases were found: lesions were located in the musculoskeletal system (n=10), female reproductive system (n=4), vascular system (n=6), hepatobiliary system (n=5), gastro-intestinal tract (n=4), urinary tract (n=6), endocrine system (n=3), respiratory tract (n=9), nervous system (n=4), and lymphatic system (n=5). Lesions were of traumatic (n=4), degenerative (n=13), congenital (n=7), tumoral (n=20), infectious (n=1), inflammatory (n=3), vascular (n=6) or post-operative (n=2) origin.

Clinical significance was none (n=21), relevant (n=18) or important with change of clinical pathway (n=17).

Conclusions

Looking systematically at the paravertebral structures on spine MR images may reveal clinically important lesions such as aortic aneurysm, retroperitoneal lymphoma, kidney tumors and lung tumors.



Multidisciplinary treatment of acute spondylolysis in athletes

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Introduction

The primary aim of treatment of acute spondylolysis is osseous healing of the stress-fracture. When healing fails after conservative treatment, a combination of percutaneous autologous bone grafting, bracing, and physiotherapy can be successful. A new approach is demonstrated, based on cases.

Materials and Methods

Surgery

Percutaneous autologous bone grafting is the only technique to improve biology at the fracture site without any damage to the paraspinal muscles, which is of utmost importance in athletes¹ (fig1).

Bracing

A boston overlap brace with a thigh cuff is used for optimal stabilisation of the lumbo-sacral junction² (fig2).

Physiotherapy

Rehabilitation is multifactorial addressing postural dysfunctions and psychosocial issues while training the segmental and global spinal stabilizers. Focus is placed not only on activation and strengthening of the deep core muscles of the transverse abdominis, pelvic floor and multifidi but also training the endurance and coordination of the muscles with activities. Then treatment involves linking the deeper core muscles to the outer core in cardinal planes and then advancing to more 3-dimensional activities and functional movement patterns. Clear goals or zones are outlined for the patient in order to progress to the next level of treatment and activity³ (fig3).

Results

Cases demonstrating successful osseous healing due to cooperation of surgeon, orthopaedic technician, and physiotherapist.

Conclusions

Optimization of healing potential of spondylolysis is multidisciplinary. Biology can be improved with percutaneous autografting, whereas stability can be improved with bracing and physiotherapy.

References

¹Robberecht J., Stevens N., Sys J. **Treatment of acute spondylolysis in elite athletes. Literature review and presentation of a new percutaneous grafting technique.** *Acta Orthop Belg* 2018; 84; 359-365.

²Panteliadis P et al. Athletic population with spondylolysis: review of outcomes following surgical repair or conservative management. *Global Spine J* 2016; 6; 615-25.

³Hodges PW, Danneels L. Changes in Structure and Function of the Back Muscles in Low Back Pain: Different Time Points, Observations, and Mechanisms. *J Orthop Sports Phys Ther.* 2019 Jun;49(6);464-476.



Figure 1



Figure 2



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Figure 3



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Lumbar pedicular stress fracture post-laminectomy

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To our knowledge, this is the first case report discussing a pedicular stress fracture of the lumbar spine post-laminectomy. Pedicular fractures are uncommon and few case reports are found in literature. Usually, they occur due to contralateral spondylolysis or congenital anomalies. In this case, biomechanical load over the pedicle changed due to spinal surgery.

A 75-year old male patient was referred by his GP to the department of physical medicine due to right-sided sciatica. CT showed a right neuroforaminal stenosis due to a herniated disc of L4L5. Electromyography was compatible with acute L4 radiculopathy. After short-lasting benefit of three transforaminal corticoid infiltrations, pulsated radiofrequent blocks were administered on the right L4 level at the algology department. After a few months, he presented with complaints of irradiation in the left leg and reduced walking distance. MR imaging showed a spinal stenosis over the L4L5 level. Epidural infiltrations had a short term effect. A laminectomy at level L4L5 and right discectomy L3L4 was performed. After initial relief of the complaints, he presented with the same right sciatica. A Tc99m-HDP-SPECT-CT showed a metabolically active, linear lucency with sclerotic margins in the right pedicle of the L4 vertebra, fitting the appearance of a stress fracture.

Multidisciplinary deliberation with representatives of the four departments was scheduled. In retrospect, this sclerotic pedicular lesion was already apparent on an MRI of the lumbar spine 4 months after the laminectomy procedure, with bone marrow edema centered around a sclerotic pedicle. A percutaneous posterolateral fusion of L4L5 is scheduled this month.



Transmural implementation of Belgian clinical guideline on nonspecific low back pain

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Introduction

Prevalence of low back pain is extremely high. In the vast majority full recovery is expected. However, some will develop a chronic condition associated with functional disability and loss of quality of life, leading to high direct and indirect costs.

The KCE (Belgian Healthcare Knowledge Centre) developed a clinical guideline on the management of nonspecific low back pain. However, research indicates that clinical guidelines are often not applied. A structured implementation can improve adherence to guidelines.

Purpose/Aim

The aim of this initiative is enhancing the implementation of the clinical guideline on nonspecific low back pain by all concerned Health Care Practitioners (HCP).

Materials and Methods

Representatives of GP, specialists in PRM, neurosurgery and anesthesiology, and project leads of the Jessa Hospital collaborated with a company building an interactive pathway, guiding the HCP through the guideline. The patient receives adequate information at the right moment, enabling active participation in care. If needed, the GP can easily refer patients with moderate/high risk of chronification to the low back pain consultation in the hospital. Registry of PROMS is possible through online questionnaires.

Results

We developed a digital clinical pathway, based on the clinical guideline on nonspecific low back pain, providing support for patients and HCP to optimize care of nonspecific low back pain (Fig1.).

Conclusions

The use of a digital pathway, available for patients and HCP could facilitate adherence to the clinical guideline on nonspecific low back pain, resulting in less practice variation, less chronification and better functional outcome.

Acknowledgements

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Fig 1 nog invoegen



Odontoid amyloidosis: A case report and review of the literature

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Introduction

Osteolytic odontoid lesions are commonly associated with metastases, inflammatory diseases, primary bone lesion and deposition diseases including hydroxyapatite deposition disease, and gout. Amyloid arthropathy is rare.

Aim/Purpose

We report a rare case of odontoid lesion related to Amyloidosis and its management.

Results

A 73 years-old female patient presented with cervical pain without any neurologic sign. She had a breast cancer treated by mastectomy, radiotherapy and hormonotherapy 20 years ago. She was required hemodialysis for terminal renal failure. CT scan of the cervical spine showed a lytic lesion of the odontoid apophysis and a second lesion next to the C5-D1 spinous processes (figure 1). MR imaging (MRI) demonstrated no spinal cord compression (figure 2). We performed an occipitocervical fixation to maintain stability before planning a transoral approach to the odontoid. During the same operative time, we resected the posterior cervical tumoral mass. Anatomopathological examination concluded to an amyloid tumor. Lumbar tap showed no neoplastic cell in the cerebrospinal fluid. Bone marrow biopsy showed a high rate of plasmacytes. The final diagnosis was Amyloidosis related to Myeloma and Chronic Renal Failure. Post-operative CT (figure 3) demonstrated a stable occipitocervical fixation (C0-C3-C4).

Conclusion

Odontoid Amyloidosis is a rare clinical entity. The diagnosis can be challenging. Surgery must be considered to maintain stability.

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Figure 1 Computed tomography



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Figure 2 Pre-operative MRI





Figure 3 Post-operative tomography





A monocentric retrospective cohort study: Outcome of the multidisciplinary back rehabilitation program

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Introduction: Back pain is a highly prevalent health condition and has an enormous personal and economic impact on individuals and on society. Different outcome domains with special attention for work-related outcomes have, to our knowledge, never been investigated in Belgium.

Purpose/Aim: Assess the effect of the multidisciplinary back rehabilitation on different outcome domains such as physical functioning, pain intensity, health-related quality of life, the psychosocial domain and return to work.

Materials and Methods: Patients who started the rehabilitation program were included in this study. The study analyzed questionnaires and tergumed results at admission and when completing the rehabilitation. Questionnaires included in the study are: ODI (Oswestry Disability Index), RMDQ (Roland Morris Disability Questionnaire), VAS, BDI (Beck Depression Inventory), Tampa Scale for Kinesiophobia, EQ-5D-5L and the SIMBO.

Results: 75% of the patients expect the rehabilitation will help clarify their working situation. In paradox only 20 % of the patients expect to get some psychological support. At the start of the multidisciplinary rehabilitation program: 43,9% is on sick leave, BDI>15: 22.3%, At the end of the rehabilitation respectively 20,8% and 1.8%. 84,1% finds the rehabilitation helped them clarify their working situation. These are preliminary results. Statistic analysing hasn't been performed yet.

Conclusions: It would be beneficial to include a screeningtool, such as the simbo, to identify patient with higher risk of failure to return to work. Patients at risk not to return to work possibly benefit from a psychological approach. We recommend better use of clinimitrics for patient oriented care and especially to capture those patient who could benefit from a psychological approach to get back to work.



Discussing sexual health in patients with chronic lower back pain

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Introduction

Research shows that chronic low back pain (CLBP) has a severe impact on the patient's sex life. This study investigates to what extent sexual problems of CLBP patients are discussed with their health care providers. What are possible factors influencing the frequency of communication?

Material and Methods

An online questionnaire was sent to the members of the Nederlandse Vereniging voor Neurochirurgie, the Belgian Spine Society, and the Vlaamse Anesthesiologische Vereniging voor Pijnbestrijding vzw to address their counselling routine, knowledge, and opinion on CLBP patients' sexual health.

Results

The majority of participants (63.1%) rarely or never discussed sexual disturbances with their CLBP patients. Communication on sexual health depended on the performed surgical procedure and patient's gender, whereas it was regardless of the participant's profession. Potential consequences of spinal surgery solely affecting male patients were addressed more frequently than those complications only affecting women ($p < 0.0001$). More participants knew about the risks of surgery negatively impacting the patient's sex life (78.9%) than the positive impact it can have on the sexual quality of life (49.1%).

Conclusion

CLBP patients' quality of life can be improved by counselling of their sexual needs and concerns. However, sexual problems are rarely addressed by neurosurgeons, orthopaedic surgeons, and pain specialists. This study shows that it is essential to raise awareness of the importance of this topic. Sexual health counselling should be provided for all CLBP patients regardless of the patient's gender or performed surgery technique. To improve communication around sexual health advanced training for health care professionals is needed.



Tuberculous spondylitis after intravesical BCG-therapy

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Introduction

Tuberculous spondylitis, also known as Pott's disease, is a very rare granulomatous inflammatory disorder of the vertebral column, caused by Mycobacterium genus complex pathogens. It is most commonly caused by hematogenous spread through Batson plexus, explaining the high incidence of thoracolumbar involvement. BCG, an attenuated derivative of Mycobacterium bovis, is commonly used in the treatment of superficial TCC, and could result in Pott's disease, even years after the procedure.

Case Presentation

A 64-year old man was referred to our Neurosurgical department as a result of debilitating lower back pain for several weeks. Examination of our patient's medical records revealed intravesical BCG-instillations for TCC. Clinical examination showed vertebral tenderness at the lower lumbar segments, as well as bilateral positive straight leg raise tests. Because metastatic disease was initially suspected, semi-urgent CT was performed, which showed osteolytic lesions at vertebral levels L4 and L5, with associated cortical breakthrough through the posterior vertebral wall. An urgent decompressive bilateral laminectomy at spinal levels L4 and L5 was performed. Later, interferon-gamma release assay (IGRA) and tuberculosis-PCR became positive for Mycobacterium tuberculosis complex pathogens. Therefore, multidrug antituberculosis therapy with Isoniazid, Rifampin, Myambutol and Pyridoxin was started. By means of medical and surgical intervention, our patients' complaints improved. Postoperative evolution was uncomplicated.

Conclusions

Although very rare, tuberculous spondylitis should be part of the differential diagnosis in patients with lower back pain, even years after BCG-instillation for TCC. It mostly affects elderly men. A posterior approach, with debridement and stabilization, should be preferred when surgical intervention seems necessary.



Multidisciplinary rehabilitation for chronic neck pain: A single-center retrospective analysis of real-world data

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Introduction

Chronic neck pain (CNP) is a common cause of disability with an often multifactorial origin. Therefore a multidisciplinary approach consisting of education, an exercise program, ergonomic interventions and psychological support, can complement conventional medical management.

Purpose/Aim

Evaluate the effect of a multidisciplinary rehabilitation program on CNP and create a prediction model to improve patient selection.

Materials and Methods

Real-world data from 681 patients, collected through electronic case-report forms (eCRF), who followed the rehabilitation program in the University Hospitals Leuven between 2009 and 2018 are analyzed. This study followed a pre-post design, assessing several questionnaires: Tampa Scale for Kinesiophobia (TSK) , Pain Catastrophizing Scale (PCS) , Hospital Anxiety and Depression Scale (HADS) and the Neck Disability Index (NDI). Furthermore, a CART analysis is conducted to describe subgroups more likely to respond to multidisciplinary treatment.

Results

A paired sample t-test revealed a significant effect after rehabilitation for anxiety ($p < 0.001$), depression ($p < 0.001$), disability ($p < 0.001$), catastrophizing ($p < 0.001$) and fear of movement ($p = 0.016$).

Conclusion

The clinical utility of multidisciplinary rehabilitation for CNP is confirmed. Given the need for better patient selection, a prediction model is created to guide decision making.



Coronal STIR-MRI for low back pain: In line with KCE 2017

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Introduction

The KCE 2017 on lumbar spine recognizes two separate clinical entities, i.e. radicular pain and low back pain. Current typical MRI scan protocols for the lumbar spine (axial and sagittal T1- and T2-weighted sequences, MRmyelogram) are mainly directed at detecting structural lesions related to radicular pain. Low back pain often correlates with different structural lesions at other locations. Therefore, a coronal STIR-MRI sequence was added to the MRI scan protocol in patients complaining of low back pain rather than radicular pain.

Purpose/Aim

The goal of this poster is to present a pictorial overview of lesions depicted by the coronal STIR-MRI sequence in patients complaining of low back pain.

Materials and Methods

The STIR-MRI sequence suppresses fat signal and enhances the presence of water, easily demonstrating bone lesions e.g. bone marrow oedema. The coronal plane and the field-of-view were chosen to include the lumbar spine, the sacro-iliac joints and the hip joints.

Results

The coronal STIR-MR images demonstrated lesions within the lumbar spine and additionally in sacro-iliac joints and hip joints. A pictorial essay of cases with Modic type 1 changes in vertebral end plates, Modic type 1 changes and hydrops in facet joints, sacroiliac joint stress fracture and insufficiency fractures, avascular necrosis and arthrosis of the hip joint was composed.

Conclusions

A specific MRI scan protocol was applied for patients presenting with low back pain according to KCE 2017. The coronal STIR-MR images demonstrated lesions in the lumbar spine, sacro-iliac joints and hip joints. Further studies are needed to evaluate if coronal STIR-MRI may decrease the need for SPECT-CT in these patients.

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