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Scottish Spine Surgeons' 14th Annual Meeting

3-4th November 2023 at Union Kirk, 333 Union St, Aberdeen, AB11 6BS

Theme: *Learning from Experience*

Programme

Friday 3rd November

1000	Welcome	Mr Peter Bodkin, Aberdeen
1010	Functional Neurological Disorder in Spinal Practice	Dr Ingrid Hoeritzauer, Edinburgh
10.40	Endoscopic Spinal Surgery	Mr Ankur Saxena, Manchester
1125	Break	
11.40	Reflections on a Career in Spine Surgery	Mr David Currie, Aberdeen
12.10	Learning from Mistakes: A Case I Learnt from - Part 1	Mr Santosh Baliga, Ms Heinke Pulhorn; et al.
1240	75 Years of Neurosurgery in Aberdeen	Mr Peter Bodkin
1255	Lunch	
1400	Pearls of Wisdom	Mr Douglas Wardlaw, Aberdeen
1445	Scottish Spine Surgery – Regional Update 10 mins each	
	Aberdeen	Mr Andrew Frost
	Dundee	Ms Heinke Pulhorn
	Edinburgh	Ms Karen Outram
	Glasgow Neuro	Mr Likhith Alakandy
	Glasgow Ortho	Mr Niall Craig
	National Spinal Injury Service	Mariel Purcell (video)
	Inverness	Mr Gerry Cousins
	Scottish National Spine Deformity Service	Mr Chris Adams
1615	Break	

1630	MSK Hub Aberdeen - our experience	Ms G Grant, Ms A Quirk, Aberdeen
1700	Learning from Mistakes: A Case I Learnt from - Part 2	Mr Niall Craig, Mr Likhith Alakandy, et al.
1745	Trainee Quiz	Mr Mohit Arora and Mr Duncan Whittaker
1815	Close	
1930	Annual Dinner	Union Kirk

Saturday 4th November

0900	Welcome	Mr Santosh Baliga, Aberdeen
0910	Patient Experience of Spinal cord Injury	Mr Daniel Gordon, Aberdeen
1000	Free Papers (session 1)	Mr Jim Walkden and Mr Santosh Baliga
1125	Break	
1115	Free papers (session 2)	
1210	Learning from Mistakes: A Case I Learnt from - Part 3	Mr Pragnesh Bhatt, Mr Sonnie Khan; et al.
1240	Presentation of prizes and closing remarks	Mr Pragnesh Bhatt
1245	SSS 2024 - Inverness	Mr Gerry Cousins
1255	Lunch	

For all other details go to the Web Site and NHS Microsoft Teams – Scottish Spine Surgeons

Free Paper Abstracts

Cadaveric Study looking at various ACDF cages on adjacent segment geometry

Thomas Diffley, Duncan Whitaker, Santosh Baliga

University of Aberdeen and Aberdeen Royal Infirmary

Background - Anterior Cervical Discectomy and Fusion (ACDF) is a well-recognized procedure for the treatment of nerve root entrapment.

Conflicts of Interest: None

Funding source: None

Aim - To analyse changes in adjacent segment anatomy after discectomy and fusion with various cages to understand how these impact post-operative pain and morbidity for patients.

Methods - Four cadavers were selected, and the anterior approaches were made. By drilling into C3,4,5 and 6 vertebral bodies we created measuring points for each segment. Prior to the annulotomy, a steel protractor was inserted gently into each hole and then the points were imprinted onto paper, then measured using a micrometer to a resolution of 0.01mm. The annulotomy was then performed and Globus Cages inserted in between C4 and C5. After each cage was inserted a measurement from the drilled points was taken again and recorded. Statistical analyses were undertaken to determine the relationship between compression and cage size and a Cochran's alpha analysis was used to determine the reliability of the observations.

Results - Cochran's Alpha analysis demonstrated a high degree of Inter-observational reliability ($\alpha=0.981$, 95%CI= 0.971-0.989). In all cadavers, C5-C6 height was significantly reduced as cage height increased (2664: $B= -0.557$, $p<0.001$ 95%CI = -0.735, -0.380), (2671: $B=-0.156$, $p=0.002$, 95%CI = -0.247, -0.065), (2717: $B=-0.270$, $p<0.001$, 95%CI = -0.383, -0.158). C3-4 Height in specimens 2664 and 2717 also related to cage height in the same way (2664, $B=-0.631$, $p<0.001$, 95%CI = -0.873, -0.39), (2717, $B=-0.454$, $p<0.001$, 95%CI = -0.550, -0.358) The use of a lordotic or parallel implant had no significant impact on adjacent segment height (Paired T-Test, $p=0.237$, 0.142, 0.124, 0.194, 0.46, 0.102)

Discussion Our research suggests that cage height significantly impacts adjacent segment height after ACDF surgery, with each mm of height causing a mean reduction of 0.573mm in height in disc C5/6 and a mean height reduction of 0.5425mm in disc C3/4. This is likely to have an impact on both the compressive forces on the vertebral body itself, the biomechanical forces Conclusion - ACDF significantly changes adjacent segment geometry and anatomy which may be a possible source of post-operative symptoms in patients. Further research needs to be conducted on the 3-dimensional changes to vertebral foramen geometry.

Evaluation of Prophylactic Negative Pressure Wound Therapy Versus Standard Surgical Dressings on Wound Outcomes in Posterior Spinal Surgery Patients: A Systematic Review and Meta-Analysis

Ahmed Rathore, Liam Lennox, Melanie Bickerton and Santosh Baliga

University of Aberdeen School of Medicine

Conflicts of Interest: None Funding source: None

Background: Negative pressure wound therapy has frequently been used in a variety of surgeries yet its effectiveness as a prophylactic therapy in spinal surgery remains unclear.

Aim: A comprehensive systematic review and meta-analysis was performed, incorporating the most recent evidence, addressing this paucity in the literature.

Study design : Systematic Review and Meta-Analysis

Patient Sample: n = 1319

Outcome Measures: Surgical Site Infection, Dehiscence, Incisional re-operation

Methods: A systematic search of the literature from inception to June 2023 was conducted using the following databases: Ovid Medline, EMBASE, CENTRAL and Web of Science. All included studies assessed primary wound closure for posterior spinal surgical incisions. Evidence was meta-analysed using odds ratios, comparing negative pressure wound therapy and standard dressing groups.

Results: Seven studies (n = 1319, mean age = 59.9 years, 55.8% male) were included. Patients with negative pressure dressings had a reduced risk of surgical site infection (odds ratio = 0.45, 95% CI 0.29 to 0.72, p < 0.001). Wound dehiscence approached significance favouring negative pressure dressings (odds ratio = 0.53, 95% CI 0.26 to 1.06, p = 0.07). Patients requiring a return to theatre for wound related complications showed no significant difference between groups (odds ratio = 0.66, 95% CI 0.37 to 1.18, p = 0.16).

Discussion: Given that surgical site infection in spine surgery is associated with significant morbidity and financial costs, implementation of prophylactic negative pressure wound therapy for this patient demographic may be beneficial.

Conclusions: Negative pressure wound therapy reduces the risk of surgical site infection in posterior spinal surgery patients.

The clinical outcomes of Cervical Disc Arthroplasty compared with Anterior Cervical Discectomy and Fusion in Degenerative Disc Degeneration causing radiculopathy – A Systematic review

Kwok Yin Fu, Abdullah AlSahli, Ali Ahmed, Alice Calesso, Donald Tsang, Isaac Slowe, Jonathan Keith, Michael Macari and Mr Santosh Baliga

University of Aberdeen and NHS Grampian. Aberdeen Royal Infirmary Department of Trauma and Orthopaedics

Conflicts of Interest: None Funding source: None

Background context: In patients with cervical degenerative disc disease (CDDD) resulting in radiculopathy surgery can be considered when conservative treatment has failed. Two surgical treatments reviewed were: Anterior Cervical Discectomy and Fusion (ACDF), the current gold standard surgical treatment, and Cervical Disc Arthroplasty (CDA). This paper provides an overview of how CDA compares to ACDF for the treatment of specifically cervical radiculopathy.

Aim / Purpose: This study's aim was to evaluate the clinical effectiveness of surgical outcomes in ACDF versus CDA in patients experiencing exclusively cervical radiculopathy due to CDDD.

Study design / Setting: Systematic review/ Multi-nationals settings (papers from different countries)

Patient Sample: patients from the 9 chosen randomised controlled trials papers

Outcome Measures: Primary: Neck disability index (NDI) score; Secondary: Visual analogue scale (VAS), EQ-5D

Methods: The literature search utilised five databases: PubMed, Cochrane Central Register of Controlled Trials, Web of Science, Ovid Medline and Ovid Embase. Studies were evaluated using a set of defined inclusion and exclusion criteria and the Critical Appraisal Skills Programme (CASP) checklist. Bias was determined using the Revised Cochrane Risk of Bias Tool for Randomised Controlled Trials

Results: The selected nine Randomised controlled studies compared clinical outcomes between ACDF and CDA in cervical radiculopathy patients. NDI, VAS and EQ-5D scores are used to measure the post-op outcomes. Various follow-up periods were used to demonstrate the patients' progression.

Discussion: Future recommendations are longer follow-up, consideration of different branded discs, and alternative outcome measures.

Conclusions: There were no significant differences in the measured outcomes between CDA and ACDF when treating cervical radiculopathy due to CDDD.

The incidence of spontaneous resolution of lumbar disc prolapse during the COVID-19 period: a retrospective single-centre experience.

Dana Hutton^{1,2}, James Magro¹, Himanshu Shekhar¹, Anna Solth¹, , David Bennett¹, Mohamed Okasha¹, Heinke Pulhorn¹

¹Department of Neurosurgery, Ninewells Hospital, NHS Tayside, Dundee

² University of Dundee, School of Medicine, Dundee

Funding source: N/A

No conflict of interest

Introduction: Between individual patients with lumbar disc prolapse (LDP), the natural course of disease is significantly variable. Spontaneous resolution is reported to occur in up to 70% of cases. It is not possible to predict for whom and when this will occur.

Neurosurgical intervention (microdiscectomy) is indicated for LDP patients with intolerable radicular pain after at least 8-12 weeks of conservative management (2), or in the presence of significant neurological deficit.

Channelling essential NHS resources into fighting the COVID-19 pandemic led to the postponement of all elective surgeries, including elective microdiscectomy. This left many LDP patients (previously considered to be surgical candidates) with conservative-only options in the interim. The peri- and post-pandemic period was an ideal opportunity to analyse the incidence spontaneous clinical and/or radiological LDP resolution. Our findings also add to the existing literature addressing the impact of COVID-19 on spinal service provision.

Methods: Retrospective case series of a prospectively collected electronic departmental database identified LDP patients that would have been impacted by the COVID-19 pandemic at some point in their care pathway (March 2020 - February 2022). Further information was obtained from electronic patient records.

Results: 139 LDP patients were listed for elective microdiscectomy. Over a third of LDP patients (n=47, 33.8%) cancelled their re-scheduled microdiscectomy due to clinical improvement (14.1%), radiological regression (6.5%) or both (12.2%).

Conclusion: Our single-centre retrospective analysis revealed multiple LDP patients who had elective microdiscectomy delayed as a direct result of the COVID-19 pandemic to later cancellation of the surgery altogether. A prolonged conservative approach to LDP may be appropriate in some patients allowing time for natural resolution, whilst avoiding any perioperative risks.

Long-term health-related quality of life (QOL) after paediatric spinal deformity surgery and comparison with the general population

Athanasios I. Tsirikos MD, FRCS, PhD; Silvia García-Martínez BA (Hons), MSc

Study conducted in the Scottish National Spine Deformity Centre, Royal Hospital for Children and Young People, Edinburgh, UK

Funding:

Conflicts of Interest:

QOL questionnaires assess patients' perception on surgical outcomes. We reviewed 1354 patients with spinal deformity. 428 patients had > 10 year follow-up. SRS-22r questionnaire was completed before surgery, at 6/12/24 months, 5-10 years and >10 years postoperatively. Patients with >10 years follow-up completed the EQ-5D VAS/Index, and the VAS for back/leg pain. We used data reporting QOL in the general population of 20-29 and 30-39 years to compare against our patient cohort. 993 patients had AIS, 80 congenital scoliosis, 102 syndromic or secondary scoliosis, 105 patients Scheuermann kyphosis, 40 low and 34 high grade spondylolisthesis. SRS-22r total and domain scores improved from preoperative to follow-up in all diagnosis categories. At >10-years after surgery, patients with congenital scoliosis and Scheuermann kyphosis had better SRS-22r total/domain and EQ-5D (index/VAS) scores along with lower VAS back/leg pain scores compared to the other groups. Patients with congenital scoliosis and Scheuermann kyphosis had comparable SRS-22r total/domain, EQ-5D (index/VAS) and VAS back/leg pain scores with the general population in the 20-29 year category and better than the 30-39 year group. Patients with AIS, syndromic/secondary scoliosis, low/high grade spondylolisthesis had reduced SRS-22r total/domain, EQ-5D (index/VAS) and higher VAS back/leg pain scores compared to the 20-29 year group but comparable to the 30-39 year general population. Patients with spinal deformity reported improved QOL and high satisfaction after surgery which was maintained at >10-year follow-up. Patients with congenital scoliosis and Scheuermann kyphosis had better QOL outcomes (comparable to the general population of similar age) as opposed to other types of scoliosis or lumbosacral spondylolisthesis.

RETROSPECTIVE ANALYSIS OF PATIENTS WITH SCAN-NEGATIVE CAUDA EQUINA SYNDROME AND THEIR ULTIMATE DIAGNOSES

R.Parulekar, D. Bennett, M. Okasha, A. Solth, H Pulhorn

Department of Neurosurgery, Ninewells Hospital, NHS Tayside, Dundee

Funding

Conflicts of Interest:

Aim: To evaluate the ultimate diagnoses in patients who presented with scan-negative cauda equina syndrome.

Method: retrospective case note and PACS analysis of 100 patients referred with symptoms of cauda equina syndrome over a period of 6 months.

Results: Data sets of 100 patients were analysed. Of these 31% were discharged from neurosurgical follow-up with non-specific findings on the MRI scan not amenable to surgery. 23% were followed up for lumbar disc prolapses with physiotherapy and other conservative measures. 20% were re-booked for neurosurgical review of a lumbar disc prolapse or canal stenosis at a later date. 26% were found to have a non-neurosurgical diagnosis and were subsequently referred to neurology (7%), orthopaedic surgery (5%), oncology (5%), gastroenterology (3%), obs+gynae (3%), urology (2%) and rheumatology(1%).

Conclusion: Non-spinal diagnoses can mimic symptoms of cauda equine syndrome and have to be considered as timely alternative treatment may be necessary.

Enhancing quality of life through delayed foot drop surgery

Patrycja Hebda, Olaf Majewski

Queen Elizabeth University Hospital Glasgow, UK, District Hospital in Mielec, Poland

Conflicts of Interest: None Funding source: None

Background context: Foot drop, a debilitating consequence of lumbar degenerative disease, significantly affects daily life. Patients often present late, and surgeons hesitate to operate beyond 72 hours. This study explores recovery following delayed surgery for foot drop.

Aim / Purpose: Assess Delayed Surgery Efficacy

Study design / Setting: A prospective analysis of five patients presenting 1-6 months post foot drop onset due to L3-S1 intervertebral disc herniation and/or foraminal stenosis, conducted in a hospital with clinical follow up.

Patient Sample: Five patients diagnosed with foot drop due to lumbar degenerative disease were included.

Outcome Measures: Muscle power assessed via the MRC scale, pain intensity ratings, and SF-36 questionnaire scores collected pre- and post-surgery.

Methods: Muscle power in the affected foot was evaluated using the MRC scale, and patients rated pain intensity. Decompression surgery involved discectomy or fenestration with foraminotomy based on MRI findings.

Results: Analysis revealed 1-2 grade improvement in muscle power on the MRC scale in 80% of operated patients. Additionally, all patients reported significant pain reduction, positively impacting their quality of life, reflected by higher SF-36 scores.

Discussion: Delayed decompression surgery demonstrated noteworthy pain relief and partial muscle power recovery. These findings underscore the potential benefits of delayed surgery in foot drop patients. Larger-scale studies are crucial to validate these outcomes and determine significance.

Conclusions: Delayed surgery offers substantial pain relief and partial muscle power recovery in foot drop patients with lumbar degenerative disease, enhancing their quality of life. Future extensive studies are needed to confirm the efficacy and significance of delayed surgery in this patient group.

Nerve root injections (Effectiveness and duration, Number of patients needing repeat injections, number of patients that end up needing surgical intervention) study based on NHS Grampian data.

: Nerve root injections for Lumbar and cervical Radiculopathy

*Israa Hussein & Mr. Kenneth Kalyango, Rimsha Aziz, Kwok Yin Fu, Mr. Peter Bodkin**

Aberdeen Royal Infirmary

Conflicts of Interest: No participants involved declared any conflict of interest.

Funding source: No funding

Background context: Epidural Steroid Injections (ESI) is one of the many existing treatment methods used extensively in the management of degenerative radicular pain in the lumbar and cervical regions. ESI are aimed at patients with positive radiographic degenerative spine changes, providing a varying degree of symptomatic relief from short (3 weeks) to long term (12 months) and even having the potential to avert the need for surgical intervention. (1) (2) When combined, steroids and local anesthetics provide radicular pain relief by blocking two main pathways; 1) prevention of pain propagation through the nerves by the local anesthetic and 2) averting the inflammation cascade around the nerve root by the steroids. (3) Surgical intervention is usually preserved for patients who have failed both the conservative management and nerve root injection however it must be noted that recent Randomized Controlled Trial (RCT) has found no difference between microdiscectomy and transforaminal ESI in managing functional disability caused by persistent radicular pain in patients with prolapsed intervertebral discs. (4) The cost-effectiveness of ESI when compared to surgical intervention, cannot also be underestimated. (5)

Aim / Purpose: The Aim of this project is to assess the overall effectiveness of nerve root injections as a treatment option for patients with MRI positive degenerative changes and radiculopathy in NHS Grampian.

Study design / Setting: Clinical audit

Patient Sample: A total of 400 patients who have undergone at least one ESI between January 2018 to July 2023 within NHS Grampian.

Outcome Measures: Outcomes assessed include effectiveness in terms of duration of pain control, number of repeat injections and after how long, number of patients that go on to have surgical intervention.

Methods: Trackcare (Grampian EPR) records and PACS were reviewed to assess the number, the effectiveness of ESI and progression to surgical intervention.

Results, Discussion and conclusions will be discussed on the National Scottish Spine Surgeon's Meeting 3-4th November 2023

Incisional Negative Pressure Wound Dressings (iNPWD) for spinal fusions

Melania Geymonat Ramírez, Mohit Arora

Aberdeen Royal Infirmary

Conflicts of Interest: None

Funding source: None

Background context: There is good evidence of using iNPWT in major surgeries like colorectal, cardiothoracic, vascular, plastics, obstetrics and orthopaedics but no clear guidance on use in spinal surgery. iNPWT in spinal fusion procedures is based on surgeon preference and patient specific with no clear indications of use.

Aim / Purpose: Review iNPWTs available at ARI spinal unit and assess our local experience with these dressings in spinal fusion procedures

Study design / Setting: Literature review and review of our outcomes with iNPWT at ARI in spinal fusion procedures between 1/7/2021 and 1/7/2023

Patient Sample: 26

Outcome Measures: Any issues of wound healing in pts with iNPWT

Methods: 182 cases, retrospective analysis of inpatient notes, discharge letters and outpatient appointments done from a period of 1 July 2021 - 1 July 2023. Both T&O and Neurosurgery patients accounted for with spinal fusion. 15 cases containing "VAC" "vacuum dressing" "PICO" "Prevena" identified. In 13 of them, iNPWT was used prophylactically. This was compared to 13 (out of same 182) randomly selected and demographically matched patients.

Results: None of the 13 patients using iNPWT had Surgical Site Infection and the wound healed properly. 2 of the 13 patients not using iNPWT had Surgical Site Infection

Discussion:

iNPWT has NICE approved guidance, to improve the outcomes and cost saving in colorectal, cardiothoracic and vascular surgery. However it has not been studied well enough in spinal fusion surgery.

Conclusions: Need for further use of iNPWT and audit of outcomes, with prospective study using iNPWT in spinal fusion procedures.

Return to Sports Following Lumbar Spinal Surgery

Mr Adam Alderson, Dr Priya Kadam, Mr Andreas Demetriades*

Neurosurgery, Department of Clinical Neurosciences, Royal Infirmary of Edinburgh

Conflict of Interest: none

Funding source: NHS

Background Context: Lumbar disc herniation, spondylolysis and degenerative disc disease are common causes of back pain and radiculopathy amongst athletes. If conservative measures fail, lumbar surgery may be required depending on the patient context. Time for return to play (RTP) is a key concern for athletes, and commonly these patient will ask when they may RTP.

There is no clear consensus concerning a time frame for RTP. The article summarises the literature RTP following common lumbar surgeries

Aim of study: Summarise the available literature regarding time to return to play (RTP) post common lumbar spinal surgeries

Study Design: Narrative Review /Meta analysis

Patient sample: Patient sample group from EMBASE, MEDLINE and PUBMED. Inclusion criteria patients were all athletes who underwent lumbar surgery Outcome measures: Time taken in months to return to sport (RTP, return to play)

Methods: Literature review using EMBASE, MEDLINE and PUBMED were all searched for relevant articles with participants were in sport pre surgically, have undergone lumbar discectomy, interbody fusion, direct pars repair or disc replacement and the time frame they returned to sport

We have differentiated between initial RTP to full RTP, where possible. Within Lumbar discectomy, rate and mean RTP has been calculated for surgical techniques.

Results: Athletes RTP fully at 4, 5, 7 and 8 months post surgically, with variation amongst patients,

Conclusion: Recommendations and study findings regarding time to RTP vary greatly in the literature.

Definition of RTP is inconsistent between authors and standardisation is needed to allow reliable comparison studies.

Surgical management of type 1 spinal dural arteriovenous fistulas arising from the same side and level as the artery of Adamkiewicz

Mr Alexander Rossdeutsch

Department of Neurosurgery, Institute of Neurological Sciences, Queen Elizabeth University Hospital, Glasgow & Department of Neurosurgery, Royal Hallamshire Hospital, Sheffield

Background context:

Aim/Purpose:

To assess the frequency of type 1 spinal dural arteriovenous fistulas (dAVF) in a single centre experience, where the fistulous connection is at the same side and level as the artery of Adamkiewicz.

- To review the outcomes following surgery of this patient cohort.
- To review safe surgical strategies for fistula disconnection in these patients.

Study design:

Retrospective medical record review of all patients with a confirmed diagnosis of type 1 dAVF evaluated at the Royal Hallamshire Hospital, Sheffield between 2012-2022.

Patient sample:

Outcome measures:

Results:

Twenty seven patients were assessed with a proven diagnosis of type 1 dAVF. Of these, four patients displayed a dominant radiculomedullary artery of Adamkiewicz at the same side and level as the fistulous radiculomedullary vein.

All four patients underwent laminectomy and disconnection of the arterialised radiculomedullary vein without significant intra-operative complication. At last follow up (mean of 14 weeks), three patients had stable functional neurological ability and one patient's neurology had continued to deteriorate.

Surgery involved microdissection of the arterialised radiculomedullary vein from its accompanying nerve root and the dominant radiculomedullary artery of Adamkiewicz. Direct visualisation of the arterialised vein and its pathological flow into the longitudinal spinal cord veins with ICG was performed prior to temporary clip ligation. Further ICG injection was then performed to ensure all pathological venous drainage had ceased with preserved arterial perfusion of the cord, prior to cauterisation and section of the abnormal radiulomedullary vein.

Discussion:

Conclusion: Type 1 dAVFs originating at the same side and level have only previously been reported as single case reports. This series highlights that this configuration may be more common than previously realised but can be successfully treated with appropriate operative strategies.

Spinal Stenosis: Surgical Outcomes from North Tees Hospital, a mid size District General Hospital in North East England.

B Drake, J Yau, F Liaw, A Kulkarni, C Bhatia

University Hospitals of North Tees and Hartlepool NHS Foundation Trust

Conflicts of Interest: None Funding source: Data from British Spine Registry

Background context:

Outcomes following lumbar decompression for canal stenosis at a District General Hospital in North East England.

Aim / Purpose:

Assess clinical outcomes of central spinal decompression surgery without fusion at the North Tees & Hartlepool NHS Foundation Trust

Study design / Setting:

Single surgeon data collected retrospectively over one year (2019) from the British Spine Registry.

Patient Sample:

44: 23 male and 21 female

Outcome Measures:

PROM- EQ5D, ODI, VAS scores

Methods:

PROMs data- EQ5D, ODI, VAS scores- was collected at four time points; Pre-operation, six months, 12 months and two years

Results:

Improvement in PROMS in patients undergoing lumbar decompression.

Discussion:

Trend improvement in EQ-5D, ODI and VAS for Back and Leg Pain. Trend improvement in ODI also noted by Weinstein et al. (2008)

Conclusions:

In well selected patients central lumbar decompression can offer a benefit to patients as shown by trend improvements in PROMs (EQ-5D, Oswestry Disability Index, and VAS for back and leg pain).

Outcomes of two techniques for Lumbar decompression

Mostafa Beshr, Duncan Whitaker, Partha Talukdar, Santosh Baliga

Institution: Woodend Hospital Aberdeen, NHS Grampian

Conflicts of Interest: none

Funding source: none

Background context: Lumbar Spine Decompression is undertaken when medical management of radicular pain has been unsuccessful.

Aim / Purpose: We aimed to investigate the association of patient demographics and two common surgical decompression techniques on post-surgery Patient reported outcome measures

Study design / Setting and Methods: Here we present the findings of a prospective cohort study on the effectiveness of lumbar spine decompression at 1 year follow-up of patients (n=96) who received lumbar decompression at Woodend Hospital, Aberdeen. Analysis using parametric and non-parametric testing showed a significant improvement in as measured by the Oswestry Disability Index (ODI; $p=0.001$) and EQ visual analogue scale (EQ-VAS; $p=0.03$).

Patient Sample: 96

Outcome Measures: PROMs

Results:

There was no significant correlation of either post-operative ODI or EQ-VAS with Age, gender, pre-operative ODI/EQ-VAS, or mode of decompression (spinous process osteotomy vs laminectomy). There was also no significant difference in post-surgery ODI between patients decompressed with a spinous osteotomy vs laminectomy.

Discussion and Conclusion

We recommend that pre-operative patient reported symptoms, age, and gender should not influence patient selection for lumbar spine decompression. This study supports the use of both bilateral laminectomy and spinous process osteotomy.

Evolution of emergency spine surgery services at NHS Grampian, a decade of hard work and perseverance- A glimpse of the days past, a celebration of today and a vision for the future.

Devika Dahiya, Ayesha Arshad, Ibrahim Ali, Dhanwanth Chigurupati, Mansi Tolia, Duncan Whittaker, Pragnesh Bhatt.

Aberdeen Royal Infirmary, Aberdeen

Conflicts of Interest: NIL

Funding source: NIL

Background context:

The emergency Spine surgery Service was established at the NHS Grampian in 2012. CES is the most common emergency spine surgery performed worldwide Over the years, our service has become busier, but has it become better?

Aim / Purpose: We want to analyse the evolution of the emergency spine surgery over the years.

Study design / Setting: Retrospective audit and comparative analysis.

Outcome Measures: Surgical management and results.

Patient Sample: Patients referred to the NHS Grampian with suspicion of CES.

Methods: We compared our results with those in 2012 and looked into some of the critical landmarks that have improved patient outcome. Excel sheet was used and T-test was applied where needed.

Results: Over a 6-month period from April 2023 to September 2023, the total number of suspected CES referral increased 8 folds as compared to 2012. The average time to imaging for patients with a high index of suspicion has improved by more than 60% during this period, largely due to availability of out of hours radiology cover. The number of cauda equina surgeries has almost doubled and the average time between imaging and surgery has reduced by almost 60%.

Discussion: Despite an 8-fold increase in the referral rate for CES, the time to imaging and to surgical decompression at NHS Grampian has improved over the past decade.

Conclusions: As we celebrate 75 years of Neurosurgery at Aberdeen, it would be fitting to applaud the toil and hard work of the entire team in running and improving this service over time and share a collective vision for a brighter future.

Fragility Fractures: Lessons from the Rapid Access Clinic

Louise Davidson, Peter Bodkin

University of Aberdeen and Aberdeen Royal Infirmary

Background – Osteoporosis is a disease prevalent worldwide with estimates that osteoporotic (low impact/fragility) fractures occur every 3 seconds and that vertebral fractures occur every 22 seconds. Osteoporotic fractures in the elderly cause significant morbidity and mortality with the mortality risk highest in the first 5 years. This risk remains elevated for up to 10 years. Patients who suffer subsequent fractures are subjected to an even higher mortality risk for a further 5 years.

Conflicts of Interest: None

Funding source: None

Aim – To investigate the use of the Grampian osteoporosis guidelines in the Aberdeen neurosurgical rapid access clinic.

Methods – The Aberdeen Neurosurgery Rapid Access Clinic lists were examined and each patient contact was noted. These contacts were then checked for duplication. The remaining patient records were then assessed and the patients categorised into low trauma fracture, high trauma fracture or other condition. The low trauma patients records were then assessed with all neurosurgical correspondence checked for any mention of BMD, osteoporosis, the current Grampian osteoporosis guidelines or any other statement that would indicate that osteoporosis was a consideration. The patient records were also checked for osteoporosis risk factors, DEXA scan requests and results, relevant medications and subsequent fractures.

Results – There were 178 patients who received care via the RAC; 83 had low impact trauma fractures. The majority of these patients were female, between 60-90 years old and were injured after a low impact fall. In 83% of cases there was no mention of BMD, osteoporosis or the Grampian guidelines. Of the patients who accessed care via the RAC 10% had a subsequent fracture.

Discussion – This study suggests that an improvement can be made in the application of the Grampian guidelines and that a set of guidance specific to the RAC would be beneficial.