case of right femoral access or retrograde catheterization from the ipsilateral common femoral artery. We present the case of a 79-year-old male with tethered cord syndrome and a symptomatic SDAVF fed by two dural branches from the left LSA (A,B). Spinal diagnostic angiography was made exceptionally challenging by an aorto-bi-iliac endograft, and selective catheterization of the left IIA was not possible (C). Given suboptimal cardiovascular profile and the tethered cord, consensus was to proceed with endovascular embolization. Right transradial approach (TRA) was chosen in order to have the straightest path possible for selection of the left IIA with the guiding catheter. A 6F dedicated glidesheath was introduced under ultrasound guidance in the right radial artery and a 6F, 131 Cm Sofia Plus catheter was navigated retrogradely until the left IIA, negotiating the aorto-iliac graft with an 0.038, 180 cm wire. A 165 cm Apollo microcatheter was advanced over a 0.007 Hybrid microwire into the LSA until the most distal fistulous point, which was embolized with Onyx 18 (figure D). The second, proximal feeder was selected with a 165 cm Magic 1.2 and was embolized with a 2:1 mixture of glue (NBCA) and Lipiodol (E), successfully occluding the SDAVF (F).Recently, TRA has gained more popularity in the neuroendovascular field. Advantages include fewer haemorrhagic complications (notably eliminating the risk for retroperitoneal hematoma) increased post-procedural comfort and access to vessels that would not be reachable through transfemoral approach. Device size and length are key considerations. Most radial arteries accommodate 6F sheaths, although successful usage of 8F systems has been reported for arteries larger than 2.5 mm. In distal lesions device length can also be a problem, as the treatment target might be too distal even for the longest microcatheter. We pre-operatively measured the length of right arm and abdomen in order to choose catheters long enough to not run out of length. The presented case is, to our knowledge, the first report of a spinal vascular malformation treated by TRA. This approach, granted appropriate equipment selection, can allow treatment of spinovascular pathologies with an otherwise unfeasible aorto-iliac anatomy.

Disclosures E. Orru': None. **C. Tsang:** None. **J. Klostranec:** None. **V. Mendes Pereira:** 1; C; Philips. 2; C; Stryker, Balt, Medtronic, Cerenovus.

E-075 IMPACT OF COAGULATION DISORDERS ON SHORT-TERM IN-HOSPITAL OUTCOMES IN PATIENTS UNDERGOING SPINAL FUSION PROCEDURES

T Colburn*, K Tong, A Wang-Selfridge, B Wright. *Kansas City University of Medicine and Biosciences, Kansas City, MO*

10.1136/neurintsurg-2019-SNIS.150

Background Spinal fusion is a surgical procedure utilized to treat or alleviate several spinal diagnoses including: tumor, spinal stenosis, degenerative disc disease, scoliosis, and spondylolisthesis. Previous studies have explored clinical outcomes for this intervention. This study aims to further investigate short-term outcomes of patients after spinal fusion by looking at the impact of coagulation disorders.

Methods This retrospective cohort study utilized data from the Nationwide Inpatient Sample (NIS) to identify adult patients (18+) from 2012–2015 who underwent spinal fusion. ICD-9 codes identified these patients; specifically patients diagnosed with a coagulation disorder. Any patients missing important clinical identifiers (age, gender, cause of death) and patients without spinal fusion intervention were excluded. Data analyses assessed hospital length of stay (LOS), inpatient charges, average age of admission and mortality rate.

Results Of the 290,752 patients that underwent spinal fusion procedure, 182 had the diagnosis of a coagulation disorder (CD):

Mean mortality rate of patients was significantly increased (4.9%, CD vs. 0.6% no CD, p = 0.0001)

LOS in patients with CD who underwent spinal fusion was significantly increased (12.87 days, CD vs. 4.02 days, no CD, p = 0.0001)

Total hospital charges were significantly increased ($289,377.06, CD vs. 98,232.87, no CD, p = 0.0001)

Mean age of patients at admission was significantly increased (60.68 years, CD vs. 57.69 years, no CD, p = 0.008)

Conclusion Patients with coagulation disorders who undergo a spinal fusion procedure suffer from increased mortality rate, LOS, total hospital charges, and age at admission. This study aims to provide physicians with information in the management of patients with coagulation disorders that undergo spinal fusion procedures. Peri-procedural patient optimization could provide a potential avenue to lower LOS, total in-hospital charges, and mortality in patients.

Disclosures T. Colburn: None. **K. Tong:** None. **A. Wang-Selfridge:** None. **B. Wright:** None.

E-076 CHARACTERIZATION OF CLINICAL OUTCOMES WITH THE SPINEJACK: A SINGLE-CENTER RETROSPECTIVE ANALYSIS OF EARLY EXPERIENCES IN THE UNITED STATES WITH A NOVEL PERCUTANEOUS VERTEBRAL AUGMENTATION SYSTEM

M Martini, K Yaeger, D Nistal, A Doshi, R De Leacy. *Neurosurgery, Icahn School of Medicine at Mount Sinai, New York, NY*

10.1136/neurintsurg-2019-SNIS.151

Background and Purpose Recently, the SpineJack has gained FDA clearance for marketing in the United States. These systems are quick and easy to deploy and have the advantage of being installed percutaneously under local anesthesia. As such, they are currently transforming the treatment landscape for patients with osteoporotic and malignant vertebral compression fractures (VCFs). Given the recency of this clearance, there is a dearth of information in the literature pertaining to experience with implementing the SpineJack in the United States. This study seeks to provide one of the first detailed analyses of outcomes following the use of the SpineJack for treating osteoporotic and maliganant VCFs in the United States. This study will focus on determining the extent to which the SpineJack is able to achieve adequate vertebral height restoration, pain reduction, and functional restoration, while minimizing the incidence of adjacent level fractures and volume of cement required to be injected into the vertebrae.

Methods Retrospective data will be collected from cases at our institution in which the SpineJack was applied to treat patients presenting with osteoporotic or maliganant VCFs. We expect to acquire data from approximately 25 cases of SpineJack procedures used to treat VCF, representing our instituition's collective early experiences with this novel system. A detailed dataset will be generated from each case, including patient

demographics, fracture etiology and characteristics, medical comorbidities, procedure characteristics, procedure-related complications, resource utilization outcomes, pain and disability outcomes, as well as quantitative measures of radiographic endpoints obtained from follow up spine CT studies. Restoration of vertebral height, as determined by the vertebral body height ratio, is the primary endpoint. Secondary enpoints include pain reduction measured by VAS score, functional improvement measured by the Owestry Disability Index, and the rate of adjacent level fractures. Complete datasets will be collected from cases pre-operatively, as well as 1, 3, and 6 months post-operatively.

Expected Outcomes We anticipate observing that the SpineJack achieves adequate restoration of vertebral height with shorter procedure times and smaller volumes of cement relative to previously reported values for other vertebral augmentation described in the literature. We also expect to observe significant and sustained improvement in both pain and function scores at pre-determined time points up to at least 6 months post-operation compared to baseline scores measured pre-operatively.

Discussion With a strong mechanistic rationale based on the promising findings from a previous prospective study carried out in Europe, this study will provide among the first comprehensive characterizations of early experiences with the SpineJack in the United States. As with any early experiences with a novel technology, key insights that improve future use of the technology may be gleaned from rigorous analysis of thoroughly collected data.

Disclosures M. Martini: None. **K. Yaeger:** None. **D. Nistal:** None. **A. Doshi:** None. **R. De Leacy:** None.

E-077 STEM CELL THERAPY FOR SPINAL CORD INJURY

W Kamel Sr*. *Immunology, Egyptian Military Medical Academy, Cairo, Egypt*

10.1136/neurintsurg-2019-SNIS.152

Spinal cord injuries (SCI) cause sensory loss and motor paralysis and are treated with physical therapy, but most patients fail to recover due to limited neural regeneration. Here we describe a strategy in which treatment with autologous adherent bone marrow cells is combined with physical therapy to improve motor and sensory functions in early-stage chronic SCI patients. In a phase I/II controlled single-blind clinical trial (clinicaltrials.gov identifier: NCT00816803), 70 chronic cervical and thoracic SCI patients with injury durations of at least 6 months were treated with either intrathecal injection(s) of autologous adherent bone marrow cells combined with physical therapy, or with physical therapy alone. Patients were evaluated with clinical examinations, electrophysiological somatosensory evoked potential, MRI imaging, and functional independence measurements. Chronic cervical and thoracic SCI patients treated with autologous adherent bone marrow cells combined with physical therapy showed functional improvements over patients in the control group treated with physical therapy alone, and there were no cell therapy-related side effects. At 18 months posttreatment, 23 of the 50 cell therapy-treated cases (46 percent) showed sustained improvement using the American Spinal Injury Association (ASIA) Impairment Scale (AIS). Compared to those patients with cervical injuries, a higher rate of functional improvement was achieved in thoracic SCI patients with shorter durations of injury and smaller cord lesions. Therefore, when combined with physical therapy, autologous adherent bone marrow cell therapy appears to be a safe and promising therapy for patients with chronic spinal cord injuries. Randomized controlled multicenter trials are warranted.

Disclosures W. Kamel: None.

E-078 NEURO IR INTRANET WEBSITE IS ASSOCIATED WITH IMPROVEMENT IN STAKEHOLDER JOB FACILITATION, SELF-EFFICACY, AND SATISFACTION

[1]Z Voronovich*, [1]A Montes, [2]D Sorte. *[1]Department of Neurosurgery, University of New Mexico, Albuquerque, NM; [2]Department of Neurosurgery and Radiology, University of New Mexico, Albuquerque, NM*

10.1136/neurintsurg-2019-SNIS.153

Introduction Neurointerventional radiology (NIR) provides a challenging environment for communication and performance as stakeholders come together from different teams to successfully execute NIR cases. Although success in NIR requires a high level of domain-specific expertise from the team members, there are no nurses, radiology technologists, or operating room technologists dedicated to NIR at our institution, and this arrangement is likely encountered at other hospitals. Such challenges can lead to poor confidence and low satisfaction on the job. In an effort to improve communication and support the performance of our NIR stakeholders, we developed an intranet website based on the Microsoft SharePoint platform. The website provides preference cards, links to relevant articles, device information, policies, case-specific data collection forms, and tracking for areas of improvement. The software was available to us through institutional licensing without additional cost. The website was created by a neurosurgical resident and the NIR clinical coordinator over a period of a month, and is primarily maintained by the clinical coordinator. We assessed the impact of the website on stakeholder job facilitation, self-efficacy, and satisfaction using surveys administered prior to and after the deployment of the site.

Methods We distributed a series of three anonymous internet-based surveys to 60 identified NIR stakeholders immediately prior to the deployment of the website, one month after the deployment, and four months after the deployment. We built our survey based on previously validated survey instruments from the information systems adoption literature. We included two questions on job self-efficacy, three questions on job facilitation, and three questions on job satisfaction, all of which were graded on a five-point Likert scale. Awareness of the website, frequency of website use, and recent NIR case participation were also assessed using self-reported scales. Questions addressing gender, age, and NIR role were optional due to concerns for preserving anonymity of the respondents.

Results The response rates were 52%, 34% and 35% for the pre-deployment, one-month, and four-month surveys, respectively. 77% of active NIR case participants reported recently using the website one month after deployment, and the reported rate of active use increased to 85% at four months. There was a statistically significant improvement in self-efficacy one month after website deployment ($p=0.05$), while self-rated possession of knowledge and task independence