PATIENT SAMPLE: A total number of 227 cases were identified. OUTCOME MEASURES: Age, gender and BMI were recorded and assessed. In addition to these parameters, the presence of neurological deficits such as cauda equina syndrome were evaluated. Furthermore, the surgical time, complications, estimated intraoperative blood loss and number of surgical revisions were recorded.

METHODS: All procedures were performed using tubular microsurgical techniques with the assistance of a microscope. The surgical procedure was performed through an 18 mm tubular retractor. Modification of technique compared to regular tubular discectomy was that we first performed an over-the-top bilateral decompression in order to create room for the safe performance of the discectomy.

RESULTS: A total of 22 patients were included in the study. The patients had a mean age of 49.8 (+/- 18) years. In the included cases, 59% (n=13) of the patients were male and 41% (n=9) were female. The mean BMI was 26.6 (+/- 5.4) m2/kg. The average surgery time was 109 (+/- 46) min with an average estimated blood loss of <10 ml (minimal). In all the patients, their GDH was treated successfully by tubular MIS. In two cases (9%), initial clinical symptoms reoccurred. In total, clinically significant weakness occurred in 5 patients (23%) prior to surgery, and 3 of the patients had clinically manifested cauda equina syndrome (14%). The cauda equina syndrome resolved in all cases. The average hospital stay was 2 (+/- 0.7) calendar days. In no case was a change in procedure from MIS to open surgery necessary.

CONCLUSIONS: Tubular MIS is suitable for the surgical treatment of GDHs. The rate of revision surgery was low in our cohort and the number of complications was also low. We conclude that minimally invasive “over the top” decompression for GDH is a safe and effective way of treating this pathology.

FDA DEVICE/DRUG STATUS: This abstract does not discuss or include any applicable devices or drugs.

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P60. Bone health optimization improves osteoporosis screening and treatment prior to thoracolumbar fusion

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BACKGROUND CONTEXT: Osteoporosis is not rare in thoracolumbar spine fusion patients and may portend poorer surgical outcomes. Implementation of a bone health optimization (BHO) clinic improves osteoporosis screening and treatment in the total joint arthroplasty population. We hypothesize that preoperative osteoporosis is common, under-recognized and undertreated in thoracolumbar fusion patients and that a BHO clinic will increase preoperative osteoporosis screening rates and pharmacologic osteoporosis treatment in this population.

PURPOSE: The purpose of the study is to determine the proportion of patients receiving appropriate osteoporosis screening and treatment before and after initiation of a BHO clinic.

STUDY DESIGN/SETTING: Retrospective case series.

PATIENT SAMPLE: Adults age 30+ who underwent elective thoracolumbar spine fusion at a single tertiary care center prior to and after creation of a BHO referral clinic.

OUTCOME MEASURES: Osteoporosis screening rates (ie, dual-energy X-ray absorptiometry (DXA) testing).

METHODS: Preoperative osteoporosis risk factors, prior DXA testing, and prior osteoporosis pharmacotherapy were collected from the electronic medical record. Fracture risk was estimated using the Fracture Risk Assessment Tool (FRAX) with and without bone mineral density (BMD) and the U.S. National Osteoporosis Foundation (NOF) criteria for screening and treatment were applied.

RESULTS: Ninety patients were included in the pre-BHO group; 53 met criteria for BMD measurement but only 10 were tested within two years preoperatively. Sixteen (18%) met criteria for osteoporosis pharmacotherapy but only 5 of the 16 (31%) received osteoporosis medication within six months of surgery. There were 87 patients in the post-BHO group and 19 were referred to the BHO clinic. BMD measurement was performed in 17 (89%) of patients referred to BHO clinic compared to 10% for those not referred. All patients (n=7) referred to the BHO clinic meeting treatment criteria received treatment within 6 months before surgery, whereas only 25% of patients not referred received treatment.

CONCLUSIONS: Osteoporosis is not rare in adults undergoing thoracolumbar spine fusion with ~13-18% meeting criteria for pharmacotherapy. Preoperative BHO referral increases screening and treatment.

FDA DEVICE/DRUG STATUS: This abstract does not discuss or include any applicable devices or drugs.

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P61. Allogenic transfusion increases the risk for postoperative infectious complications in children undergoing spinal fusion

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BACKGROUND CONTEXT: Perioperative transfusion is thought to contribute to infectious complications in adolescent spinal fusion procedures, though low power, inconsistent findings, and uncontrolled potential confounders limit interpretation of the literature to date.

PURPOSE: Perioperative allogenic RBC transfusion is associated with 30-day postoperative infectious complications in pediatric spinal fusion patients.

STUDY DESIGN/SETTING: Retrospective analysis of the American College of Surgeons National Surgical Quality Improvement Program Pediatric (ACS-NSQIP) database.

PATIENT SAMPLE: A total of 19,132 pediatric patients from the ACS-NSQIP database.

OUTCOME MEASURES: Postoperative infections.

METHODS: The multicenter NSQIP pediatric surgical database was queried for spinal fusion procedures in patients <18 years, from 2016-2019. Perioperative allogenic blood transfusion was defined as any transfusion of red blood cells (RBCs) from surgery start until 72h postoperative. Postoperative complications included surgical site infection (SSI), pneumonia (PNA), urinary tract infection (UTI), systemic sepsis, or septic shock up to 30 days postoperative. Logistic regression was performed comparing those who did and did not experience infectious complications.

RESULTS: Of 19,132 children undergoing spinal fusion, 693 (3.6%) patients experienced ≥1 infectious complication postop: 393 (2.0%) with SSI, 192 (1.0%) with PNA, 155 (0.8%) with UTI, 120 (0.6%) with systemic sepsis, and 29 (0.2%) with septic shock. 4075 (21.3%) were transfused allogenic RBCs. In multiple logistic regression, after adjusting for comorbid conditions, periop RBC transfusion was independently associated with experiencing ≥1 infectious complication (OR 1.54, 95% CI 1.26-1.87), SSI (OR 1.35, 95% CI 1.04-1.75) and PNA (OR 1.91, 95% CI 1.34-2.72). In addition, age (OR 0.92, p<0.0001), weight (OR 1.01, p<0.0009), ASA status (OR 2.73 p<0.0001), neuromuscular disease (OR 1.83 p<0.0001), operative time >300 minutes (OR 1.35 p=0.0017), 13 or more levels fused (OR 1.67 p<0.0001), and antibiotic treatment of the surgical site (OR 0.75, p=0.0102), were also independently associated with infectious complications.

CONCLUSIONS: This is the largest cohort to date examining infectious outcomes following pediatric spinal fusion surgery, providing evidence for the association between transfusion and postoperative infections. After