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Minimally Invasive/Percutaneous Spinal Surgery in the treatment of Thoracolumbar fractures: Current concepts

Approximately 11,000 new cases of spinal injuries occur every year in the United States of America and approximately 250,000 people in this country have associated spinal cord injury. Regarding the most affected anatomical levels, 50% occur in the thoracic and lumbar regions. The estimated cost of a spinal cord injury with neurological deficit is \$ 200,000 for the first year and 21,000 annually. The life expectancy for patients with neurological lesions is shortened from 15 to 20 years. In South America, the incidence of this lesion is 40 new cases/year/million inhabitants, being more frequent in males, young adults and low level of schooling. In the treatment, the posterior approach, with midline incision and separation of muscle groups associated with decompression through laminectomy and fusion through pedicular screws, longitudinal rods and cross-links, is one of the most used techniques. However, is associated with aggression of healthy tissue with extensive muscle injury, increased rate of bleeding and posterior ligament injury. In this context, minimally invasive techniques of arthrodesis (MISS) have been increasingly used for the treatment of thoracolumbar fractures, as they cause less damage to healthy tissues, with less blood loss, reducing

the occurrence of morbidities and complications. In the case of traumatic injuries, many patients have multiple comorbidities due to polytraumatism and benefit from a less aggressive treatment, therefore, more and more centers have performed percutaneous arthrodesis techniques. Because it is a recent high-tech surgical technique that is feasible after advances in fluoroscopy and image navigation, the benefits have been greatly studied in relation to the conventional technique. Therefore, we will discuss the updates and novelties regarding the treatment of thoracolumbar fractures through minimally invasive surgery.

Speaker Biography

Gibran Franzoni Rufca completed his degree in Medicine and Neurosurgery from the School of Medicine of São José do Rio Preto. His main institution is the Hospital Santa Casa de Ourinhos, where he and his team provide neurosurgical treatments, mainly for the pathologies of the vertebral column. They brought to the region where he works the first endoscopic, functional surgeries and the first minimally invasive procedures of the spine. He is currently also a master's degree student in the Post-Graduation Program of the University of São Paulo - Campus Botucatu and working in the research of pain and minimally invasive surgeries of the spine, under the coordination of Prof. Dr. Flávio Ramalho Romero.

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