

6th World Congress on Spine and Spinal Disorders

December 06-07, 2021 | Dubai, UAE

Bertolotti's Syndrome: Minimally Invasive Tubular Microsurgical Transverse Processectomy: A modified surgical approach

Hatem Afana¹, Muhammad Raffat¹, and Nicandro Figueiredo^{2,3}

¹King's College Hospital London, UAE

²Federal University of Mato Grosso (UFMT), Brazil

³University of Cuiaba (UNIC), Cuiaba, MT, Brazil

Objective: Patients with Bertolotti's Syndrome (BS) typically present with Chronic, Paramedian, Low Back Pain (LBP), associated with abnormal enlargement of the Transverse Process (TP) of the most inferior lumbar vertebra, usually associated with Lumbosacral Transitional Vertebra (LSTV). This article presents the authors experience with surgical treatment to Bertolotti's Syndrome and proposes a modified Minimally Invasive Tubular Microsurgical Transverse Processectomy.

Method: Retrospective case series study of all consecutive patients with Bertolotti's Syndrome treated surgically. This article describes a new modified Minimally Invasive Tubular Microsurgical Transverse Processectomy proposed by the authors in order to facilitate the transverse processectomy.

Results: Fourteen patients were included. Seven cases were patients with symptomatic isolated Bertolotti's Syndrome, and the other 7 cases had another associated disc lumbar disorder treated surgically during the same procedure. The average age at the date of the surgery was 38.7 y (range: 24 -55 y.o.). The average follow-up after the surgery was 10 months (range: 4 -31 months). According to the Castellvi radiographic classification system, 13 cases were classified as type II, being 6 with the pseudoarticulation on the right side, 4 left on the side, and 3 cases bilaterally; and 1 patient was type IV, with the pseudoarticulation on the left side. Seven patients were treated using Minimally Invasive Tubular Microsurgical Transverse Processectomy only for the BS, which was performed bilaterally in 2 cases and re-operate one patient because the bone resection was incomplete, in a total of 10 surgeries. Intraoperative fluoroscopy was used in all of those cases to locate the base of the enlarged TP (7/7); Intraoperative Neuromonitoring (IONM) was used in 5 patients (5/7), and 3D intraoperative advanced spinal image was used to check the final bone resection for the last 4 cases (4/7). Among the 7 patients who were submitted to surgery only for the BS, 4 of them had only paramedian lower back pain, 3 patients had radicular pain associated with the paramedian lower back pain, 2 had type II A with ipsilateral radicular pain, and 1 had type II B with bilateral radicular pain. The average paramedian lower back pain score before the surgery on visual analogue scale (VAS) for the 7 patients was 6.4 (range: 5 -7) and reduced to 1.4 (range: 0- 3) at the latest follow-up after surgery, while the average pain score of the radicular pain before the surgery was 1.1 (range: 0-6) and reduced to 0.6 (range: 0-7) after the surgery. We had 1 patient who complaint only of paramedian lower back pain before the surgery, but the patient experienced new radicular pain right after the surgery, mostly likely due to the intraoperative nerve manipulation, which started to improve gradually after 1 month of postoperative with conservative treatment.

Conclusion: This article proposes a new modified Minimally Invasive Tubular Microsurgical Transverse Processectomy, as it is a potentially safe and effective surgical treatment of selected patients with Bertolotti's Syndrome.

Level of Evidence: Level IV (case series with no, or historical, control group) of Medical Evidence was provided with this case series supporting the role of a new Modified Minimally Invasive Tubular Microsurgical Transverse Processectomy for surgical treatment to Bertolotti's Syndrome.

Biography

Hatem Afana ended his journey in medical school and graduated from Zagazig University in 2010, Egypt. As he traveled back to Palestine to be trained and working between hospitals, he gained a good amount of experience which led him to gain his Palestinian Medical Licence in 2012, the International Foundation of Medicine (IFOM) in 2014 as well as the Palestinian Orthopedic Board in 2019. In 2020 he moved to Dubai and started to work at king's college hospital. Hatem is entitled through many courses of Trauma, evidence-based Medicine, surgery conferences, and symposiums. Being a member of the AO trauma and SICOT society, he has authored and co-authored many publications in peer-reviewed journals. His special interests include Orthopedic Surgery, Spinal Trauma, Degenerative and Deformities.

e: hatembafana@gmail.com