

94%/53%; R5/3: 94%/58%). Direct signs of tracer egression did not correlated with verified sites of leakage.

**Conclusion:** We propose CSF PET with [68Ga]Ga-DOTA as a novel, fast and convenient approach of RC for verification of CSF leaks with high sensitivity and specificity. CSF PET may fulfill an important gatekeeper function to stratify patients towards escalation or de-escalation of diagnostic and therapeutic measures.

## 10 PERIPHERAL NERVE SURGERY

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### ALTERATION OF LIPID ASSET IN PERIPHERAL NERVE SHEATH TUMORS: TARGETED AND UNTARGETED LIPIDOMIC ANALYSES

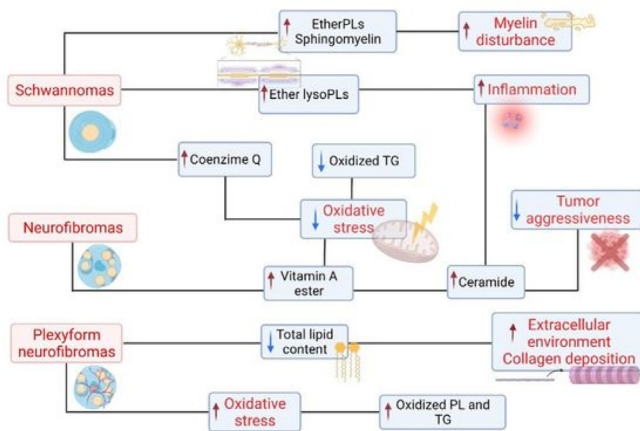
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**Background:** Peripheral nerve sheath tumors (PNSTs) include schwannomas, neurofibromas (NFs), and plexiform neurofibromas (PNFs), among others. While they are benign tumors, according to their biological behavior, some have the potential for malignant degeneration, mainly PNFs. The specific factors contributing to the more aggressive behavior of some PNSTs compared to others are not precisely known. Considering that lipid homeostasis plays a crucial role in fibrotic/inflammatory processes and in several cancers, we hypothesized that the lipid asset was also unbalanced in this group of nerve tumors.

**Methods:** Tumor specimen obtained from consecutive patients admitted for suspected PNST (January 2020- June 2021) were subjected to both an untargeted lipidomic profile and a targeted analysis to determine the absolute concentrations of sphingolipid.

**Results:** 44 total samples were obtained from a cohort of patients with a mean age of 49 years. Through untargeted lipidomics, NFs presented a significant increase in ceramide, phosphatidylcholine, and Vitamin A ester. PNFs displayed a marked decrease in 34 out of 50 lipid classes analyzed. An increased level of ether- and oxidized-triacylglycerols was observed; phosphatidylcholines were reduced. After sphingolipidomic analysis, we observed six sphingolipid classes. Ceramide and dihydroceramide were statistically increased in NFs. All the glycosylated species appeared reduced in NFs but increased in PNFs (figure 1).

**Conclusion:** different subtypes of PNSTs presented a specific modulation in the lipidic profile. The untargeted and targeted lipidomic approaches, which were not applied until now, contribute to better clarifying bioactive lipid roles in PNS natural history to highlight disease molecular features and pathogenesis.



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### SACRAL NERVES RECONSTRUCTION AFTER SURGICAL RESECTION OF A LARGE SACRAL CHORDOMA RESTORES THE URINARY AND SEXUAL FUNCTIONALITY AND THE ANAL CONTINENCE

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**Background:** Chordomas are slow-growing tumors, with a high tendency to local relapse. En bloc resection is related to the most favorable outcome in terms of survival but is frequently associated with permanent neurological deficits involving sphincters and sexual functions. In the present article, we describe an innovative technique of en bloc resection followed by reconstruction of the sacral nerves with nerve grafts.

**Methods:** The chordoma was excised through a posterior approach after dividing the proximal and distal sacral nerves using the established technique. After that, a microsurgical S2-S3-S4 nerve reconstruction was performed connecting the proximal and distal stumps with sural nerve grafts withdrawn from both lower limbs.

**Results:** Immediately after surgery, the patient experienced complete impairment of sexual function and sphincters with urinary and fecal incontinence. After six months, there was a progressive recovery of sexual function and sphincter control. One year after the operation, the patient achieved an adequate sexual life (erection and ejaculation) and complete control of the bladder and anal sphincter.

**Conclusion:** Reconstruction of nerves sacrificed during sacral tumor removal has been shown to be effective in restoring sphincter and sexual function and is a promising technique that may significantly improve patients' quality of life.

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### INDIVIDUAL BURDEN OF DISEASE, IMPACT ON WORK STATUS, AND HEALTH RELATED QUALITY OF LIFE IN SURGICALLY TREATED PATIENTS FOR MERALGIA PARESTHETICA

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**Objective:** Compression of the lateral femoral cutaneous nerve results in pain and paresthesia of the lateral thigh and is referred to as *Meralgia paresthetica* (MP). Increasing incidences are expected. The individual burden of disease, the health-related quality of life (QoL), and individual work status have never been characterized.

**Methods:** A validated questionnaire was sent to 27 surgically treated patients with MP. Data is presented as median and [IQR].

**Results:** The questionnaire was sent back by 63 % of patients with a median age of 46 [20;56] years. Symptoms were present 6 years [1;13] before surgery. 88 % of patients underwent single-sided neurolysis. Comorbidities were present in 88 % of patients (diabetes mellitus in 29 %, obesity in 53 %, depression in 47 %, back pain in 65 %). Median BMI was 30 [21;35]. Follow-up (FU) was accomplished at a median of 4 years [1;7] after surgery. 88 % of patients reported a benefit from surgery. Pre-surgical VAS improved from 8 [5;9] to 3 [1;6] at FU ( $p < 0.001$ ). At FU, 41 % of patients were retired; 18 % due to MP. 41 % of patients returned back to work. Preoperative health related QoL on a scale from 0 to 100 was rated with a median of 50 [0;75] and was significantly improved at FU with a median of 70 [3;90] ( $p = 0.007$ ). Median dimensional values (1- no problems to 5 - not able to perform tasks) for mobility/self-care/activity/pain/ and anxiety improved from 3/1/3/4/2 to 2/1/1/3/1, respectively.

**Conclusion:** A substantial number of patients had a benefit from surgery and QoL improvement. However, the median individual health related QoL in surgically treated patients with MP is still lower than the national average. Whether this is influenced by type of surgical therapy, comorbidities, or other individual factors needs to be evaluated in future studies.

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### SURGICAL TREATMENT OF EXTRAORGANIC TUMORS OF THE NECK WITH COMPRESSION OF THE NEUROVASCULAR BUNDLE

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**Background:** Tumors of the neurovascular bundle in the neck are rare and difficult to treat formations, primarily due to complex topographic relationships with important structures of the neck. The approaches to their treatment are still largely unclear.