



Letter to the Editor

Corresponding Author

Weiyang Zhong

<https://orcid.org/0000-0002-3463-2546>

Department of Orthopaedic Surgery, The First Affiliated Hospital of Chongqing Medical University, Chongqing, China
Email: 492467112@qq.com

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See the reply to commentary on “Sacral Nerves Reconstruction After Surgical Resection of a Large Sacral Chordoma Restores the Urinary and Sexual Function and the Anal Continence” via <https://doi.org/10.14245/ns.2245030.515>.



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Commentary on “Sacral Nerves Reconstruction After Surgical Resection of a Large Sacral Chordoma Restores the Urinary and Sexual Function and the Anal Continence”

Zhuolin Dai¹, Weiyang Zhong^{2,3}

¹Chongqing Medical University, Chongqing, China

²Department of Orthopaedic Surgery, The First Affiliated Hospital of Chongqing Medical University, Chongqing, China

³Orthopedic Laboratory of Chongqing Medical University, Chongqing, China

Chordoma is a rare tumor originating from the residue of the notochord which usually occurs in the sacrum, skull base and spine, and has the characteristics of local invasiveness and poor prognosis.¹ The clinical onset of chordoma is usually insidious and the symptoms are atypical. Therefore, at the time of diagnosis, the tumor has grown to a large volume, often involving important nerves and blood vessels, and has a tendency to recur and metastasize, bringing difficulties and challenges to surgical resection.² Nowadays, the options of treatment for sacral chordoma include surgical resection, radiotherapy, chemotherapy, targeted drug therapy,³ and so on. However, surgery is still the main management modality for sacral chordoma.

In the paper, the authors described a new technique, which is used for the first time in the field of sacral chordoma resection, that is, bulk resection of sacral chordoma, and then sacral nerve reconstruction with peripheral nerve transplantation.⁴ The 54-year-old patient diagnosed with sacral chordoma, the authors marked the nerve roots in the proximal and distal part of the lesion with sutures, separated the proximal and distal sacral nerves, and resected the chordoma involving bilateral lower S1 sacral nerves (14 cm × 8 cm × 7 cm) through the posterior approach. After operation, the sural nerve of the bilateral leg was grafted, and the epineurial microsuture technique was used to connect the stump and the distal end of S2-S3-S4. During the follow-up of 3 months, 6 months, and 1 year after operation, the bilateral limb discomfort of the patients began to improve, the residue after micturition gradually decreased to basically normal, the bladder could be emptied spontaneously, and the sensitivity and sexual function of Sellar and genital areas were gradually restored.

The surgical treatments of sacral chordoma were the mass resection of extensive surgical margin.⁵ Previous clinical trials have shown that negative surgical margin was the single most important predictor of tumor recurrence and long-term survival.^{6,7} Although recurrent sacral chordoma can be performed by revision surgery, its surgical risks and recurrent mortality were high. In a meta-analysis of 436 patients, the recurrence rate in the wide margin group was lower than that in the insufficient margin group, but the recurrence mortality

ty in both groups was as high as 40%, expanding the surgical margins was to reduce the recurrence of sacral chordoma.⁸ Radical resection could obtain a wide range of surgical margins, but mostly at the expense of important structures such as the sacral nerve, resulting in permanent, life-changing functional sequelae, while increased the probability of surgical complications.⁹ Intratumoral resection can preserve part of the sacral nerve, but could bring much higher local recurrence rate and poor prognosis. In tumor cases with more proximal neurovascular involvement, the conflict between obtaining a wide range of surgical margin and preserving sacral nerve is worthy of our consideration.⁵ In this study, postoperative sacral nerve reconstruction can make up for the intestinal and bladder dysfunction caused by total resection of the sacral nerve. But the autologous nerve transplantation used by the authors also had many disadvantages, such as increased surgical trauma, donor skin scar, sensory disturbance, nerve structure mismatch, and so on, which limited its clinical application to a certain extent.¹⁰ Therefore, the nerve transplantation is more suitable for the reconstruction of sacral nerve in cases where mass and sacral nerve have to be removed as a whole. The surgical strategy of transferring new axon sources was to restore the function of denervated bladder after nerve injury has never been used in the clinical environment, and it was obvious that the authors have taken an important step in the field of sacral nerve repair. Zheng et al.¹¹ reported that 5 cases of sacral nerve root anastomosis were performed after block resection of sacral tumor, and only 2 cases showed improvement in limb, bladder and intestinal function. However, in the author's article,⁴ only one case of functional improvement after nerve transplantation after tumor resection was described, which may be related to the surgeon's experience, body healing ability etc. It does not have extensive maneuverability and outstanding representativeness. We need more clinical cases to support this method and conduct further research in the field of human nerve repair and reconstruction. In the clinical application of nerve transplantation and reconstruction, the surgeons, the patients and patients' families urgently hoped that the surgery could greatly improve the emptying and storage function of the bladder, so in the absence of a standard scoring system for the recovery of sacral nerve function, the patients may be likely to exaggerate the improvement of postoperative function, and the surgeons may overestimate the success of the operation.¹² Based on this, it was found that the authors lacked a standardized scale for preoperative and postoperative evaluation of sacral nerve function. In addition, the postoperative fol-

low-up time of the case was too short, which requires at least 2–3 years of long-term follow-up and evaluation to rule out the possibility of being overinterpreted as a permanent good index.¹²

Conflict of Interest: The author has nothing to disclose.

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