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CORR Insights

CORR Insights®: How Does the Level of Nerve Root Resection in En Bloc Sacrectomy Influence Patient-Reported Outcomes?

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Where Are We Now?

Surgery with curative intent by en bloc total or partial sacrectomy is the treatment of choice for the majority of patients with primary malignant tumors of the sacrum. In selected circumstances, it may be also indicated for primary or recurrent pelvic malignancies extending to the sacrum with no evidence of metastasis, most commonly colorectal or gynecologic cancers, often in association with pelvic exenteration [2, 7]. Above all, sacrectomy with negative surgical margin represents the treatment goal for patients with chordoma, by far the most common primary malignant sacral neoplasm, because it is predictably associated with long-term survival and cure [2].

Sacrectomy is a technically demanding procedure requiring multidisciplinary competence. The complex anatomy including proximity to important blood vessels and neurological structures presents formidable surgical challenges, and the procedure also is hard on the patient, as complications occur commonly, and compromised function is the norm. The extent of neurologic loss following sacrectomy can include bowel, bladder, sexual, and even lower-extremity function, depending upon the level of nerve root transection [3, 4].

Where Do We Need to Go?

A systematic approach to the deficit and its anatomic basis allows precise "mapping" of the sacral roots function and assists in predicting the likelihood of postoperative dysfunction [9]. However, the assessment of function in this setting remains difficult for several reasons. Outcomes assessment is challenging, given the complexity and variability of surgery, the complications that may occur, and variability in patients' recovery time; additionally, "grading" bowel, bladder, and sexual dysfunction beyond the dichotomy of normal versus abnormal function is even more difficult, as we lack valid tools for this job. In addition, the nature of the kinds of dysfunction that can follow this procedure, their life-changing impact, and their importance both on body and mind cannot be fully captured by objective measuring tools, with obvious implications on the preoperative patient-physician discussion.

This CORR Insights® *is a commentary on the article* "How Does the Level of Nerve Root Resection in En Bloc Sacrectomy Influence Patient-Reported Outcomes?" *by* van Wulfften Palthe *and colleagues available at:* DOI: 10.1007/s11999-016-4794-3.

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A qualitative approach and methodology may enhance our understanding of sacral surgery in this patient population [1]. Quantitative assessment of patient-reported qualitative data not filtered by physicians seems more representative of the patients' mental and physical health [6].

Patient Reported Outcomes Measurement Information System (PROMIS) is now available to provide measurement of patient-reported health status for physical, mental, and social well-being. The authors of the current study recognized the lack of knowledge in the field and have focused on this difficult problem, following previous work [5, 8] on patients with metastatic spine disease and assessment of function after sacrectomy based on the level of bone resection.

This is unquestionably a novel area of research and their results are quite interesting, despite the usual difficulties with collecting thorough and homogeneous data and maintaining statistical power when analyzing patients' subgroups. Their work is also relevant because highlights the value of collaborative projects among Institutions sharing similar treatment philosophies to address a specific clinical problem.

Patient-reported outcomes are a promising tool to provide patients with higher-quality, comprehensible information that can improve patient-physician communication in patients with sacral malignancies.

How Do We Get There?

This multicenter study shows how we can refine and improve the role of patient-reported outcome measurements. The value of prospectively collected physician-based high quality clinical data along with perfection of qualitative approach through patient-perceived outcome cannot be overemphasized. Patient's perspective is in my opinion essential when trying to assess the impact of different surgical techniques, adjuvant treatments such as radiation and/or chemotherapy and complications on ultimate functional outcome. Support from scientific societies and further multicenter collaborations will be needed here, since these tumors are uncommon. It seems particularly important that future studies focus on the complex and devastating problems these patients experience, assisting perioperative discussion and management of chronic pain, incontinence, and impotence, and that these studies seek to more definitively answer the question about when colostomy is indicated for patients undergoing high sacrectomy.

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