

Efficacy of Surgical Treatment for Symptomatic Metastatic Spinal Tumor

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Background

Surgical treatments for metastatic spinal tumors are expected to improve pain and paralysis despite it is hard for them to improve life prognosis. Since the life prognosis usually depends on the condition of primary lesion, it is sometimes difficult to speculate the outcome of surgical treatment. On the other hand, treatments for cancer have been developed and the needs for surgical treatments can be changed. We tried to undergo surgical treatments to improve pain and/or paralysis in the case of metastatic spinal tumor if general conditions were tolerable for surgery. The purpose of this study is to investigate the efficacy for symptomatic metastatic spinal tumor (life prognosis, pain scale, paralysis and complications).

Cases and Results

Sixty-two cases of metastatic spinal tumor (male 32 and female 30; mean age: 65 years old) had surgical treatment from 2013 to 2017. Average follow-up period was 14 months (1-60). Primary lesions were 15 cases: lung, 10 cases: breast, 8 cases: prostate, 5 cases: rectal cancer, 4 cases: thyroid and liver, 3 cases: pancreas and uterus, 2 cases: bladder and lymphoma, and each one case: others and unknown origin. Operative time, amount of bleeding, complications and survival time were investigated. Preoperative and postoperative pain and paralysis were evaluated by numerical rating scale (NRS) and Frankel classification. As the life prognosis predictive factor, Tokuhashi score in each case was evaluated and investigated the relationship with actual survival time.

The operative time was 144 (51-288) minutes. The amount of bleeding during surgery was 614 (5-2255) ml. All the cases had posterior (to vertebral) decompression and/or fusion without vertebral body replacement. There were no fatal cases caused by perioperative complications. Thirty-nine cases were died at the time of investigation and the mean survival period in these cases was 9.7 (1-33) months. The mean preoperative NRS was 6.8, which improved to 2.5 postoperatively (statistically significant). Ninety-four percent (58 cases) of the cases showed improvement in NRS. The number of the cases of preoperative Frankel A, B, C, D and E were 4, 4, 9, 13 and 32 cases. On the other hand, the number of the cases of postoperative Frankel A, B, C, D and E were 4, 1, 7, 15 and 35 cases, respectively. Eleven cases showed improvement and fifty-one cases remain unchanged in this classification. There were no cases of functional deterioration. There were forty cases of less than 9 points in Tokuhashi score, which were usually regarded to poor prognosis. Of these, nine cases survived at the time of investigation. Further, nineteen of these forty fatal cases survive more than 9 months.

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Conclusion

In present study, surgeries improved quality of life especially in pain. More than half of the cases which were regarded to poor prognosis by existing evaluation survived.

Surgeons should consider applying surgery for the cases symptomatic metastatic spinal tumor.

Key words: spine, metastasis, surgery, Tokuhashi score, QOL