Novel surgical technique to solidify cyst-type metastatic brain tumors using autologous fibrin glue for complete resection.

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Publication Date: 2014

Abstract:

Background: An outstanding issue regarding the surgical treatment of cyst-type metastatic brain tumors is the incomplete resection of cyst walls. Herein we propose a novel surgical technique that can overcome this issue. During a surgical procedure for cystic tumors, autologous fibrin glue is to be injected into the tumor cysts, which solidifies the cyst lumens and cyst walls en bloc with reducing the tumor size. As a result, tumor masses and cyst walls can be removed completely in an en bloc fashion in all cases. Copyright:

Methods: The illustrative case presented in this report is a patient with metastatic brain tumors in the frontal lobe. When we reached the tumor wall surgically, we first suctioned out the cyst content and subsequently injected autologous fibrin glue into the cyst lumen. The autologous fibrin glue solidified the tumor en bloc, and we resected the tumor mass and the cyst walls in an en bloc fashion.

Results: We have applied this technique to four cases with cyst-type metastatic brain tumors. This approach made it possible to perform ideal en bloc resection in all cases. There were no adverse events due to the autologous fibrin glue.

Conclusion: We developed a novel surgical technique to solidify cyst-type metastatic brain tumors using autologous fibrin glue, which allows en bloc resection of tumor masses and cyst walls quite safely using inexpensive materials. Given these advantages, it appears a promising surgical strategy for cyst-type metastatic brain tumors.