Clinical Outcomes of Stereotactic Radiotherapy in Treatment of Patients with Oligometastatic Brain Tumor.

Thesis submitted for partial fulfillment of M.Sc. degree in

Clinical Oncology

By

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SUMMARY and CONCLUSION

Hypofractionated stereotactic radiotherapy (HFSRT) is used nowadays in treatment of oligometastatic brain metastases or large lesion or nearly to eloquent region, with KPS ≥ 70% ,due to all the previous mentioned studies showed that the high local control and less toxicity compared to the other lines of treatment especially stereotactic radiosurgery(SRS).

We retrospectively evaluated 60 patients with oligometastatic BMs treated with HFSRT 30 Gy/5 fractions, with median follow up 12moths, assessed the patients clinically and radiologically by MRI brain with consecutive intervals started 3months after HFSRT and continued for 2 years.

Our result showed that local tumor control was 83.3% at 6 months, 76.7% at 12 months, 67.2% at 18 months and 37% at 24 months and neuro-cognitive disturbance grade 1 was reported in 8 patients (13.3%).

Comparative to previously studies, the wide range of the prescribed doses of HFSRT and the results which preferred the HFSRT than SRS as regard the more local control and less side effect, probably due to a theoretical radiobiology advantage and a higher biologically effective dose(BED) delivered.

To identify the ideal dose regimen for HFSRT, we recommend further prospective comparative studies between different dose regimens with large sample size for better assessment local control and toxicity of HFSRT.

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