

Submission from Dr LI Lai-fung

Title: New treatment strategy to malignant primary brain tumour

Introduction

Malignant primary brain tumours are relatively rare disease. Every year, there are about 80-100 new patients and their median survival time is 12-14 months. Because it accounts for a very small proportion of all new cancer patients, it is always outside the focus during service planning and resources allocation. But they can have longer survival and quality of life if more resources and special service can be funded for new treatment strategy.

Current status

Majority of the patients are treated in public hospitals. They received surgical excision/biopsy, followed by chemotherapy and radiotherapy. The standard treatment is Stupp regimen which was published in 2005. The chemotherapy uses temozolomide which charges patients tens of thousands of dollars per month. Samaritan fund will support initial eight months of treatment to eligible patients while others have to pay. For patients with recurrent disease during or after the standard treatment, they may benefit from off label treatment using target therapy and immunotherapy based on genetic test result from Next Generation Sequencing (NGS) that is only available overseas. The cost for the test and subsequent drug treatment are not covered by Samaritan Fund (SF). This treatment protocol has been proven both overseas and locally can effectively prolong patients' survival and well adopted overseas.

Globally, there is no new standard treatment since 2005 in treating this malignant disease till the invention of Tumour Treating Fields (TTF). It is a hardware worn by patient to apply an alternating electric field across the head to slow down tumour progression and can prolong patients' survival by 4.9 months which is a significant lap given 12 to 14 months median survival and is also effective for recurrent disease. It had been approved by the United States Food and Drug Administration in 2011 and 2015 as add-on treatment for recurrent and newly diagnosed disease respectively. It also received CE mark from European Union, authorization in Japan and Australia. This device landed Hong Kong early this year. It charges USD 20,000 per month. This is not available in Hospital Authority (HA) nor supported by SF.

Service Gap

Given the high cost of chemotherapy and current level of asset allowance for SF, many patients who have assets over the supporting criteria can hardly afford the drug. In addition, there is no biological basis to stop after eight months of treatment. Patients had been supported by SF are forced to stop treatment and await disease to recur.

For recurrent disease and those failed first line Stupp regimen, NGS service is not available locally and alternative treatment agents are not supported by HA and SF. Most patients cannot pay for overseas NGS and alternative drug treatment, in particular they loss earning capacity due to their brain tumours.

Introducing new treatment modality is slow in public hospitals. TTF is yet to be accepted by Hospital Authority as a valid treatment, not to mention being provided by HA as standard treatment given the extreme high cost.

Proposal

Essential chemotherapy is provided by HA to all patients as standard treatment until it has been determined by oncologists to be ineffective.

In short term, to provide funding to HA to provide overseas NGS service and support NGS guided medical treatment. In long term, support HA develops its NGS service or cooperates with local academic institutions to make this service locally available to all patients.

At administrative level, to urge Department of Health and HA to setup easily accessible and accelerated mechanism to adopt new technology, allocate resource to new and world accepted technology like TTF so that Hong Kong medical standard can reach the world standard.

Conclusion

There is no doubt adding NGS, providing essential chemotherapy as standard treatment and introducing TTF to malignant primary brain tumour treatment will have significant financial implication. Contrary, this strategy has been proven to prolong patients' survival. Given the small patient number, it is affordable by government. The experience from modernizing treatment strategy for an uncommon disease will serve as the foundation for the reformation of common tumours' treatment.