

Multidisciplinary lung cancer clinic: An emerging model of care

Dear Editor,

Lung cancer management is progressively complex and multidisciplinary input is often needed. The recent publication of CheckMate 816 heralds a paradigm shift in the treatment of resectable non-small cell lung cancer (NSCLC),¹ with many other perioperative trials soon to follow.² Oligometastasis and oligoprogression in stage IV NSCLC are now recognised as distinct entities. Oligometastasis refers to a limited number of metastases at the initial diagnosis of lung cancer, whereas oligoprogression is defined as a limited number of lesions with progression while on systemic therapy.³ Radical intent treatment can be considered in some patients under both circumstances, resulting in improved outcomes.⁴ As such, multimodality treatment is increasingly utilised across the various stages of NSCLC and input from multiple disciplines is often needed.

While multidisciplinary tumour boards are commonplace, patients are usually not involved and still require multiple clinic visits to various specialties, which can be challenging to navigate and prolong time to treatment initiation.⁵ Recognising the need to improve patient care, particularly amid the global coronavirus pandemic,⁶ we started a weekly multidisciplinary clinic (MDC) in August 2020 comprising medical oncology, radiation oncology and cardiothoracic surgery. We describe our experience running this service in National Cancer Centre Singapore, an Asian tertiary cancer centre.

MDC was a physician-led referral service that served as a “one-stop” session for any lung cancer patient who required multidisciplinary input as deemed by their primary physician, such that counselling and treatment options could be provided in one setting. Any physician from Medical Oncology, Radiation Oncology, Cardiothoracic Surgery or Respiratory Medicine could refer patients to this service. MDC was run once a week in the specialist outpatient centre and attended by a medical oncologist, radiation oncologist, cardiothoracic surgeon and patient navigator. Each patient was allotted a 30–45-minute clinic time slot, and appointments were arranged within 2 weeks of the referral date. Patients were charged as per standard clinic consultation charges, which were adjusted according to the number of specialists being consulted.

Between August 2020 and May 2022, 46 patients were seen in MDC. Teleconsultation was arranged for

one patient residing overseas. The median age was 63.5 years (range 42–81); 58.7% (27/46) male and 60.9% (28/46) were never smokers. Distribution by stage was 15% (7/46) Stage I, 26% (12/46) Stage III and 59% (27/46) Stage IV. Among the 40 patients with adenocarcinoma, 32 (80%) had an oncogenic driver mutation of which epidermal growth factor receptor (EGFR) was the most common at 25 (63%), followed by human epidermal growth factor receptor 2 (HER2) at 8% (3/40) and anaplastic lymphoma kinase (ALK) at 5% (2/40).

The reasons for referral to MDC (Fig. 1A) show the most common being oligoprogression at 35% (16/46), followed by consolidation therapy for metastatic disease at 17% (8/46), and stage 3 NSCLC for multimodality treatment at 13% (6/46). The median number of oligoprogressive sites was 1.5 (range 1–5).

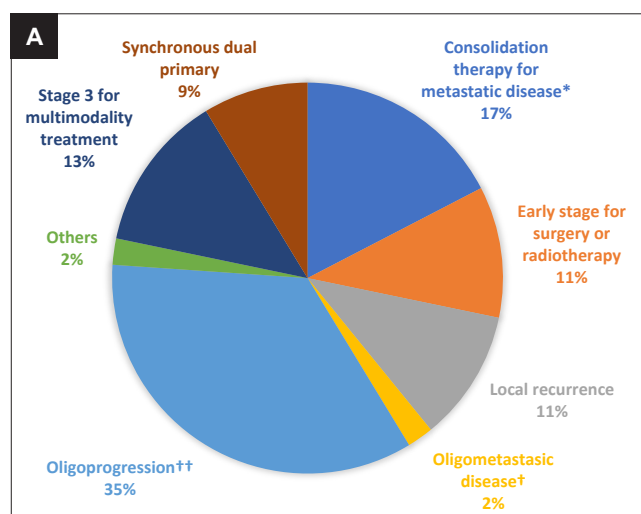


Fig. 1A. Reasons for referral to multidisciplinary clinic.

* Local therapy to remaining sites of disease after response to systemic therapy

† Limited number of metastases at initial diagnosis of lung cancer

++ Limited number of lesions with progression while on systemic therapy

MDC treatment recommendations are summarised in Fig. 1B, demonstrating changes in management for many patients. Among 27 patients with stage IV disease, 12 (44%) were recommended radical treatment (6 surgery, 5 radiation and 1 chemoradiation). Of the 16 patients with oligoprogression, 10 (63%) were recommended radical local therapy (5 radiotherapy and 5 surgery) without change in systemic therapy. All 6 patients with stage III disease were recommended radical treatment

(2 surgery, 2 radiation and 2 chemoradiation), and one patient was enrolled in a clinical trial 33 days after the MDC visit. Molecular profiling was performed in 16 patients, of which an actionable mutation was found in 7 (44%), including EGFR T790M (n=2) and EGFR C797S (n=1) (Fig. 1C).

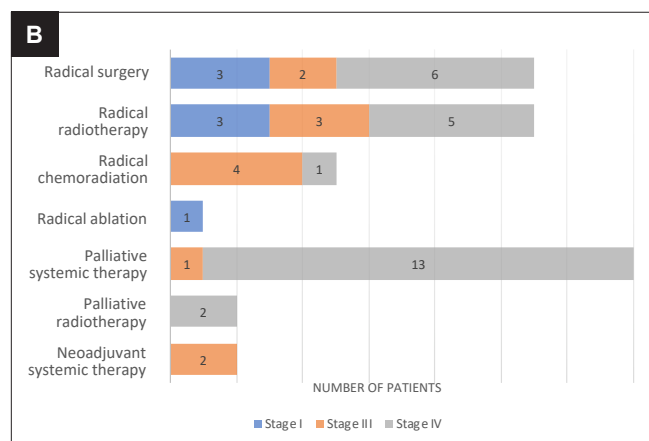


Fig. 1B. Treatment recommendations following multidisciplinary clinic.

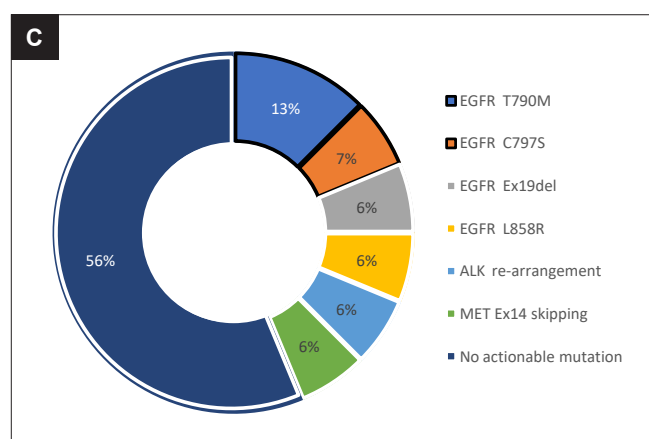


Fig. 1C. Molecular profiling results.

ALK: anaplastic lymphoma kinase; EGFR: epidermal growth factor receptor

Radical treatment was recommended for 28 patients, of which 25 underwent recommended treatment successfully. Two patients declined radical radiotherapy and surgery was held off for 1 patient due to disease progression. There was no change in systemic therapy for 96.0% (24/25) of patients when radical intent treatment was recommended. The median time from MDC visit to treatment initiation was 28 days (range 4–111), with reduced hospital dwell time during COVID-19. No treatment-related mortalities were observed at 30 days. At the time of data analysis in July 2022, 9 patients who had undergone radical intent treatment had developed disease progression, with a median time to treatment failure of 189 days (range 37–449).

Feedback was collated prospectively by patient navigators, with 93.5% (29/31) of patients reporting that the service was helpful. The main reasons cited included the opportunity to hear opinions from multiple specialists in one visit, more treatment options presented, and shortened waiting time to start treatment. Similarly, physicians felt that MDC helped in the decision-making process by facilitating simultaneous discussions with other specialties together with the patient.

Our centre's positive MDC experience affirms the feasibility and value of this model of care. Advantages such as decreased time from diagnosis to treatment, increased patient satisfaction, and closer collaboration between healthcare providers have been similarly reported by other multidisciplinary cancer clinics, although the impact on patient survival is less established.⁷ Beyond expediting treatment initiation and reduced hospital dwell time, which was of particular importance to reduce COVID-19 exposure risk during the global pandemic,⁶ we also demonstrated that MDC provided more treatment options and reduced the need to switch systemic therapy among patients with oligoprogression. Local therapy in oligoprogressive and oligometastatic oncogene-addicted NSCLC has been shown to improve disease control and allow continuation of targeted therapy,^{8,9} consistent with our experience and especially relevant since most patients referred to MDC had an oncogenic driver mutation.

Patient involvement in complex treatment discussions is paramount as the lung cancer treatment landscape swiftly evolves, necessitating in-depth dialogues and shared decision-making between patients and physicians.¹⁰ An increased uptake of multimodality treatment is anticipated in the perioperative and oligometastatic/oligoprogression setting, underscoring the importance of close interdisciplinary collaboration and adequate resourcing such as facilitating teleconsultations and access to patient navigators.

Our study had several limitations. A single-centre study performed in a tertiary Asian cancer centre could limit the generalisability of the data. Furthermore, as this was an observational study without a formal control arm, we were unable to quantify the improvement in survival by implementing MDC. Nonetheless, our experience supports the feasibility of running a multidisciplinary lung cancer clinic and such a service should be provided where possible.

In conclusion, MDC is feasible and achieves encouraging clinical outcomes, on top of improved patient and physician satisfaction. Close interdisciplinary collaboration and adequate resourcing are essential for the success of this service and MDCs will likely see an expanded role.

Disclosures

Dr Saw reports personal fees from Pfizer, Bayer, AstraZeneca and MSD, non-financial support from Guardant Health, outside the submitted work. Dr Chua reports personal fees from AstraZeneca, outside the submitted work. Dr Ong reports personal fees from AstraZeneca, non-financial support from Johnson & Johnson, personal fees from Medtronic, personal fees and non-financial support from Stryker, personal fees from MSD, outside the submitted work. Dr Lai reports personal fees from Amgen and grants from Merck, AstraZeneca, Pfizer, Amgen, Bristol Myers Squibb, and Roche outside the submitted work. Dr DSW Tan reports grants from Amgen, Novartis, GlaxoSmithKline, AstraZeneca and Pfizer, consulting fees from Novartis, Bayer, Boehringer Ingelheim, AstraZeneca, Eli-Lilly, MSD, GlaxoSmithKline and LOXO and personal fees from Takeda, Novartis, Roche, Pfizer, Merck and Boehringer Ingelheim.

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