

## Palliative care needs during inpatient stay for commercial CAR-T infusion at the Newcastle upon Tyne Hospitals NHS Foundation Trust

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### INTRODUCTION

Chimeric antigen receptor (CAR) T cell therapies are a promising new option in the treatment of some haematological malignancies. This is a rapidly expanding field, with many new products in development and two currently commissioned for the treatment of refractory or resistant large B-cell lymphoma and primary mediastinal B-cell lymphoma in adults at the time of writing.

The patient journey is complex, may require patients to travel long distances from their homes to treating centres, and at some centres requires a long inpatient admission around the time of infusion of the CAR-T cells. Patients may have advanced disease at the time of infusion, the infusion carries the possibility of severe side-effects, and unfortunately, some patients will go on to have progressive disease despite infusion; of these individuals, a significant number may die within a few months even if further therapies are offered.

Despite much attention to safety and clinical outcomes, little has been written about the experiences of patients with B cell lymphomas receiving CAR-T therapies<sup>1-3</sup>, their palliative care needs or the models of supportive and palliative care that would best meet these needs.

### AIM

To assess patients' symptomatic burden and palliative care needs during the admission in which the patients underwent CAR-T cell infusion.

To provide a snapshot of this cohort's needs in order to inform discussion around planning of service delivery.

### LIMITATIONS

- Retrospective case note analysis is unable to identify anything not documented in the case notes
- Reliance on proxy measures
- Lack of data on whether referral to the specialist palliative care team improved the patient experience
- Small sample size

### METHOD

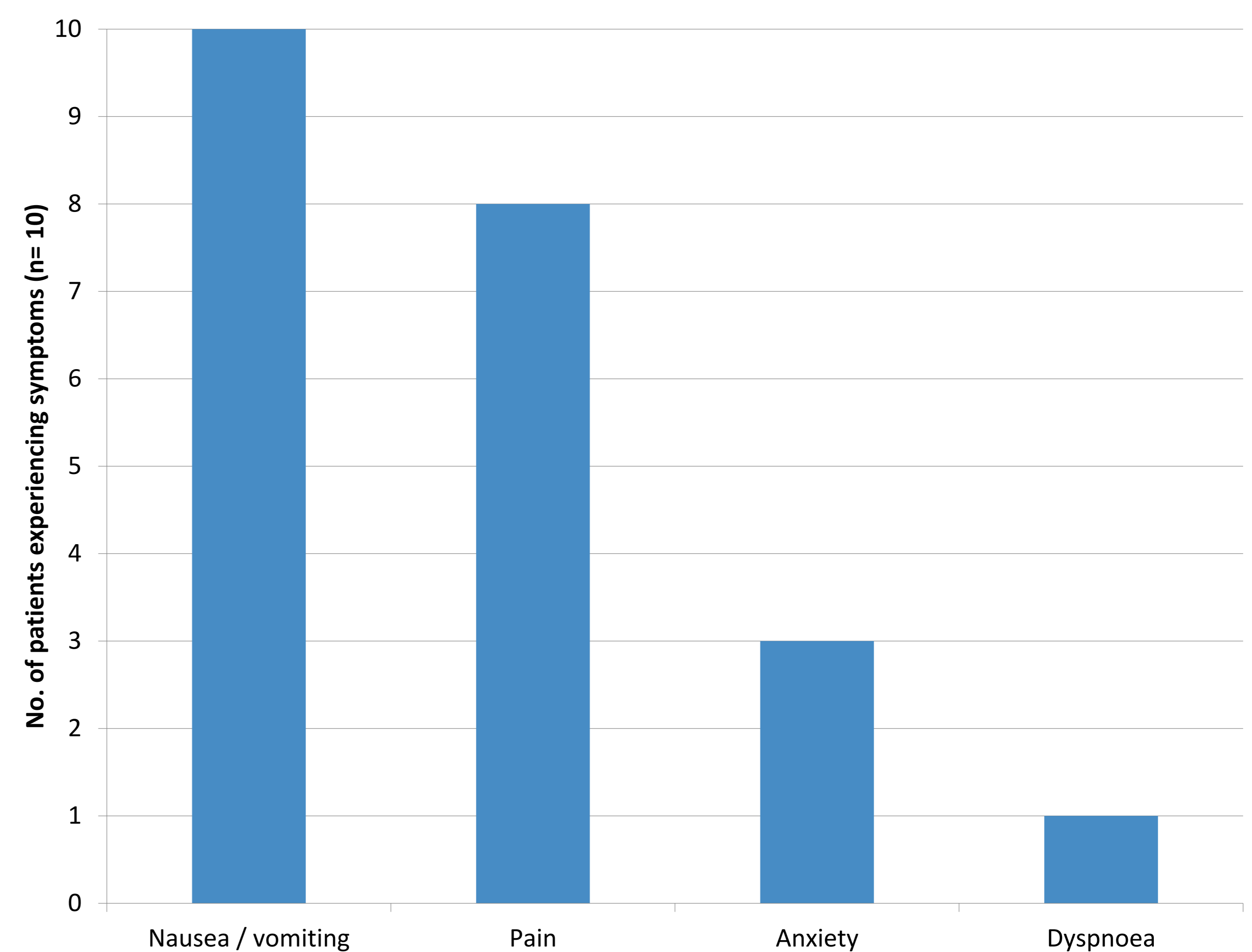
**Retrospective case note analysis** for ten adult patients who received CAR-T infusion for the treatment of refractory or resistant large B-cell lymphoma and primary mediastinal B-cell lymphoma at the Newcastle upon Tyne Hospitals NHS Foundation Trust between March 2019 and August 2019.

**Outcomes** used included:

- symptom burden (defined in this instance as evidence of the patient experiencing pain, nausea / vomiting, dyspnoea or anxiety)
- referral to specialist palliative care
- clinical minutes spent by the specialist palliative care team with referred patients
- preferred and achieved place of death (where relevant)
- the geographical distances between the patients' homes and the hospital, and the ease of facilitating discharge (where relevant).

### RESULTS

**Fig. 1** Symptom burden relating to palliative care expertise amongst patients receiving commercial CAR-T therapy at the Newcastle upon Tyne Hospitals NHS Foundation Trust during inpatient stay for CAR-T infusion



Patients experienced a **high symptom burden** at the time of their cell infusion. 100% of patients experienced at least one of the symptoms assessed, and 80% of patients experienced more than one. All patients experienced nausea and vomiting.

Four patients (40%) were referred to specialist palliative care during their admission for CAR-T infusion.

Amongst these referrals, during the admission in which the patient underwent cell transfer, the specialist palliative care team spent a total of 4054 clinical minutes, with a **median time of 1041 minutes per patient seen**.

All those referred to specialist palliative care were experiencing multiple symptoms.

**Eight patients (80%) lived in a place outside of our locality** with a mean distance of 153 miles travelled to receive treatment.

At the time of writing, four of the patients (40%) had died, all of whom had input from the specialist palliative care team. **In all cases, preferred place of death was established and achieved.**

One patient required rapid discharge on a palliative basis, which caused **logistical difficulty** due to the distance between their preferred place of death and the treating hospital (more than 100 miles).

### CONCLUSIONS

We identify three potential areas of service delivery improvement:

- The patients in this cohort demonstrated a **significant symptom burden** requiring input from the local specialist palliative care team.
- We suggest a role for the proactive and early **involvement of specialist palliative care clinicians** with patients being referred for CAR-T therapies. This may aid the early identification and effective treatment of symptom burden relevant to palliative care expertise, and allow for prompt and high quality input around end of life care and planning if required.
- There is a potential role for a **system for rapid discharge on a palliative basis which crosses geographical boundaries**. More investigation into this idea is needed, and as more centres begin to deliver CAR-T therapies, such a cross-geographical service may be of increasing relevance to those patients travelling long distances from their homes to participate in trials.

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