

# Outcomes of patients with poor prognosis metastatic germ cell tumours (GCT) with a mediastinal primary in a large tertiary UK centre

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## 1. Background

Patients categorised as poor prognosis germ cell tumours (GCTs) based on IGCCCG have a 5-year survival of 48% [1]. A mediastinal primary often denotes a poorer prognosis (40% 5 year survival) [2]. Management varies between centres and determined by primary site of disease and patient factors. We describe our experience at the largest germ cell centre in the West Midlands (Queen Elizabeth, Birmingham).

## 2. Objectives

There have been few studies looking into the overall survival of poor prognosis mediastinal primary patients in the UK.

This study has focussed on treatment for poor prognosis germ cell tumours within our catchment area as well as comparing this with mediastinal primary patients.

Primary aims included overall survival.

## 3. Methods

Retrospective electronic records based analysis was performed on poor prognosis GCT patients managed at Queen Elizabeth, Birmingham from 1999 to 2025.

Collected data included:

- Patient demographics
- Site of primary disease
- Histological subgroup
- Treatments including chemotherapy regimes
- RPLND (Retroperitoneal lymph node dissection) status

Primary outcomes included overall survival.



Figure 1: Methodology

## 3a. Analysis

Kaplan Mier Curve demonstrating OS in days for Mediastinal primaries

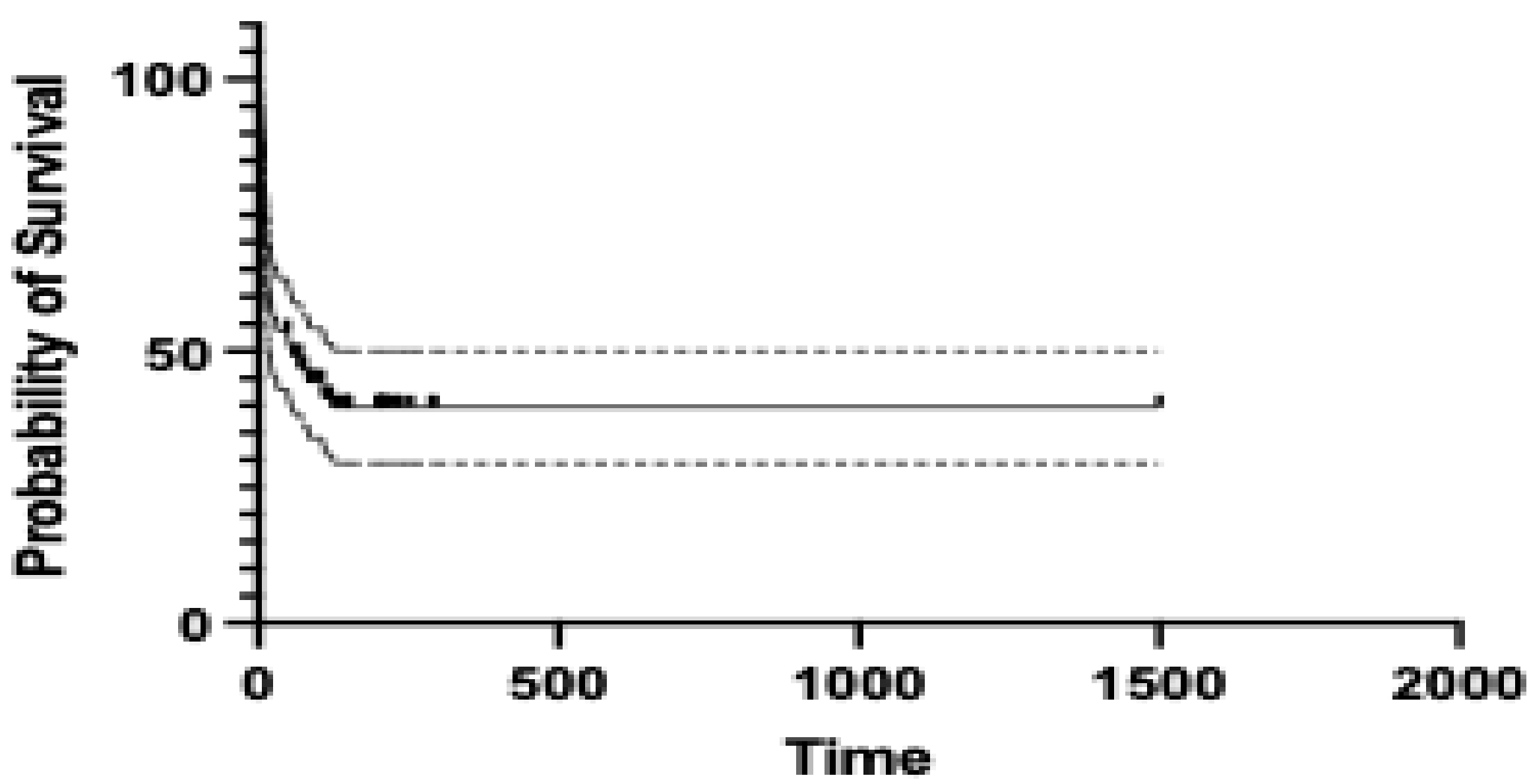


Figure 2: Kaplan Mier Curve

## 4. Results

104 men were included with a median age of 30 (16-70). All patients had a diagnosis of non-seminomatous germ cell tumour. Median age at diagnosis for mediastinal primary patients was 32 (19-66).

- 35 (33%) patients had an extragonadal primary
- **17 (16%) had a mediastinal primary**

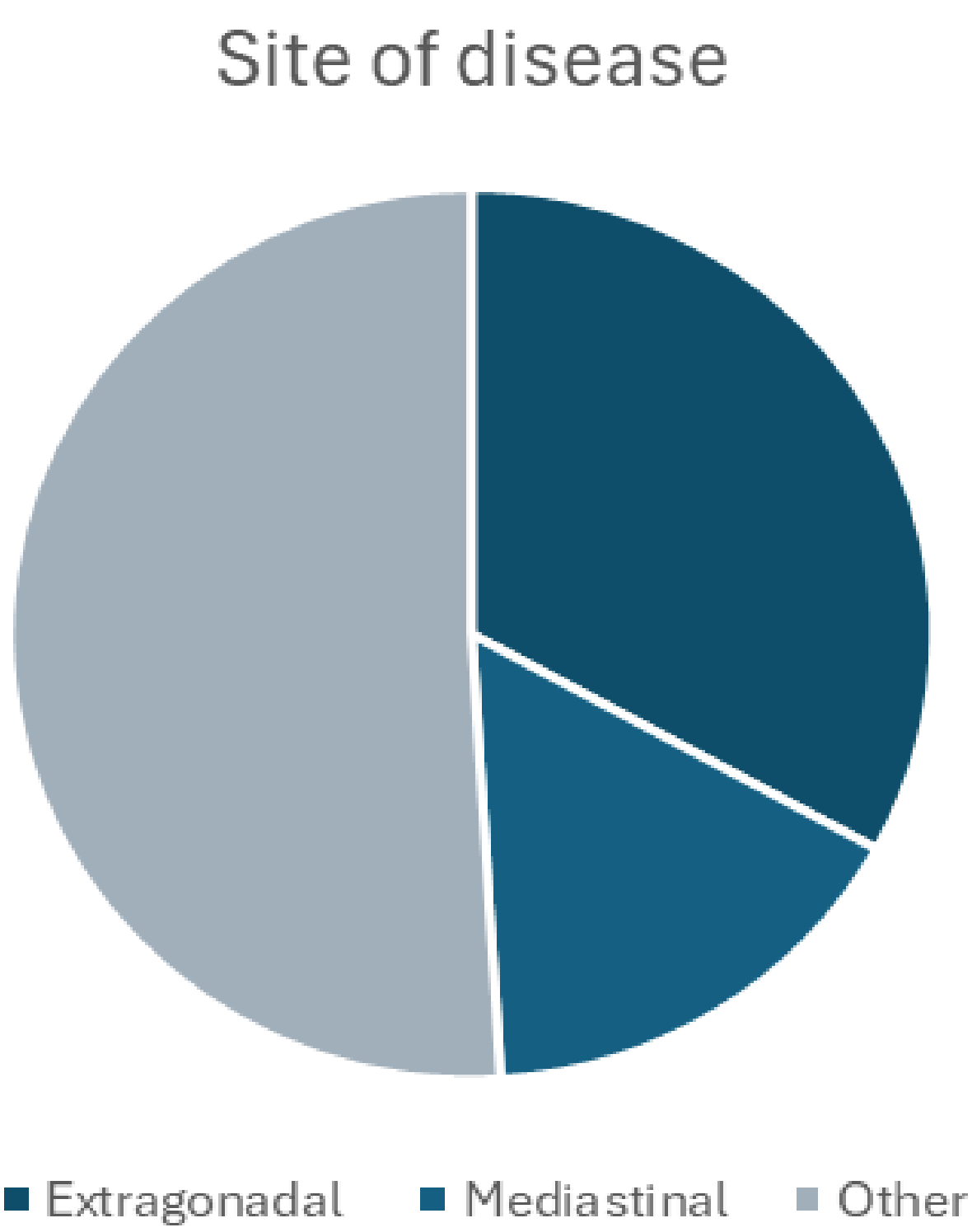


Figure 3: Site of primary disease

In terms of treatment/management:

- 82% (n=14) were treated with BEP chemotherapy
- 3 patients received a combination regime of CPOP/BEP in the 1st line setting
- 3 patients relapsed requiring TIP chemotherapy
- **1 patient received high dose chemotherapy alongside chemotherapy in the 3rd line setting**

With regards to survival:

- 52% of mediastinal primary patients remain alive.
- Patients with a mediastinal primary had an OS of 41% over 5 years (95% CI 39.7-42.5)
- Non mediastinal primary patients had a 5 years OS of 41% (95% CI 40.3-41.7)

## 5. Conclusion

The management of mediastinal germ cell tumours is challenging given their poorer prognosis. Ideally, cases should be treated in an experienced centre. Our centre (QEHB) resides to be the largest tertiary centre caring for germ cell patients in the West Midlands).

In contrast, to published data, our cohort study has shown a comparable 5 year OS survival of 41% for mediastinal primary patients and non mediastinal primaries. This is likely attributed to a strong collaboration between members of the MDT.

## References

- [1] Silke Gillesen et al. Predicting Outcomes in Men With Metastatic Nonseminomatous Germ Cell Tumors (NSGCT): Results From the IGCCCG Update Consortium. JCO 39, 1563-1574(2021). DOI:10.1200/JCO.20.03296.
- [2] Vallejo-Yepes C, Carvajal-Fierro CA, Brugés-Maya R, Beltrán J, Buitrago R, Beltrán-Jimenez R, Carreño-Dueñas JA. Survival Outcomes of Patients With Mediastinal Germ Cell Tumors: Experience of a Cancer Center in South America. Front Oncol. 2022 Jan 3;11:758496. doi: 10.3389/fonc.2021.758496. PMID: 35047390; PMCID: PMC8761649.

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