Uterine Leiomyosarcoma with Cardiopulmonary Metastasis: A 60 Year Systematic Literature Review and Implications on Australian Practice

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INTRODUCTION

Uterine leiomyosarcoma (uLMS) is a rare but aggressive gynaecological malignancy with a propensity for haematogenous spread. Cardiopulmonary metastases represent a particularly uncommon and clinically challenging presentation. The literature is confined to isolated case reports, and the clinical course, management approaches, and survival outcomes remain poorly characterised.

AIMS

To systematically review reported cases of uLMS with cardiac metastases, characterise clinical and metastatic patterns, describe treatment strategies, and summarise survival outcomes.

METHODS

A systematic search of PubMed and MEDLINE identified case reports and series describing uLMS with cardiac metastases from 1960 to 2025. Data extracted included patient age, primary treatment, interval to cardiac metastasis, cardiac and extracardiac metastatic sites, management, and survival.

STUDY SELECTION

Twenty-six eligible case reports and series, published between 1960 and 2025, met inclusion criteria and were analysed for this review.

26 Reported cases (1960–2025)

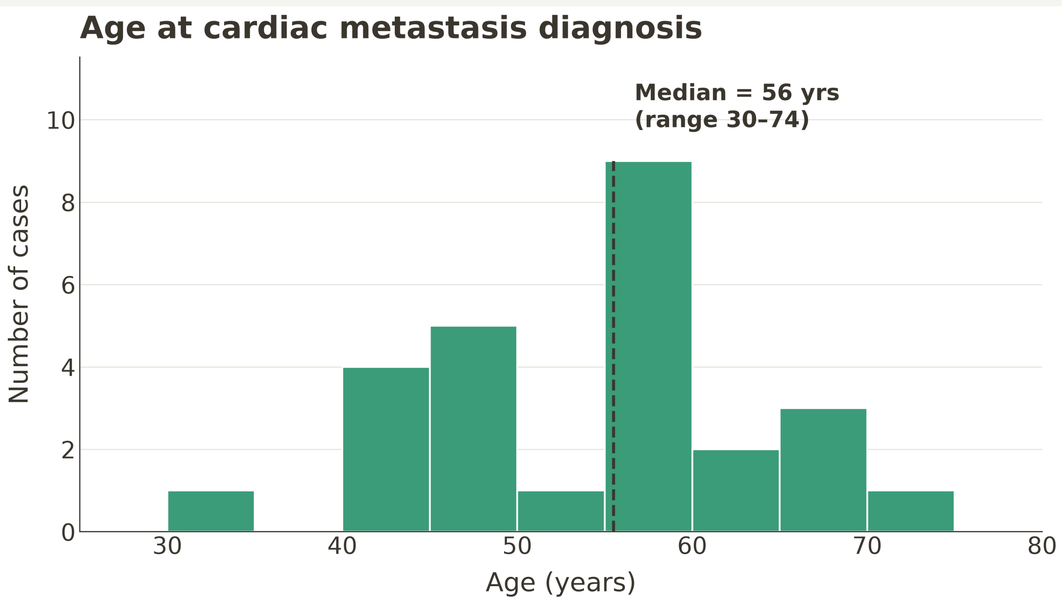
56 yrs Median age at cardiac metastasis

48 mo Median interval to cardiac metastasis

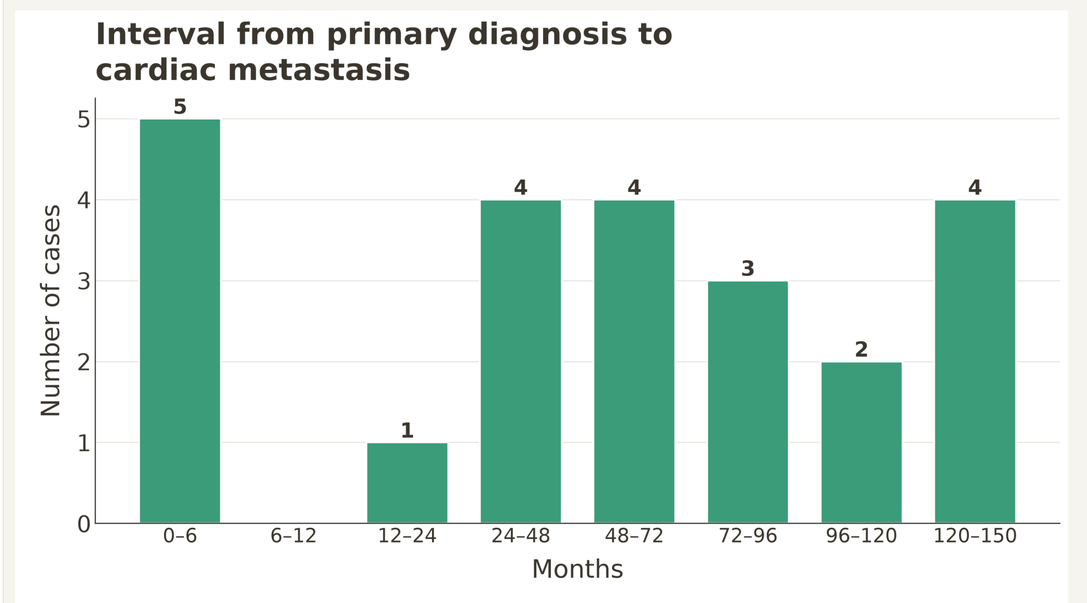
42% Had concurrent pulmonary metastases

RESULTS

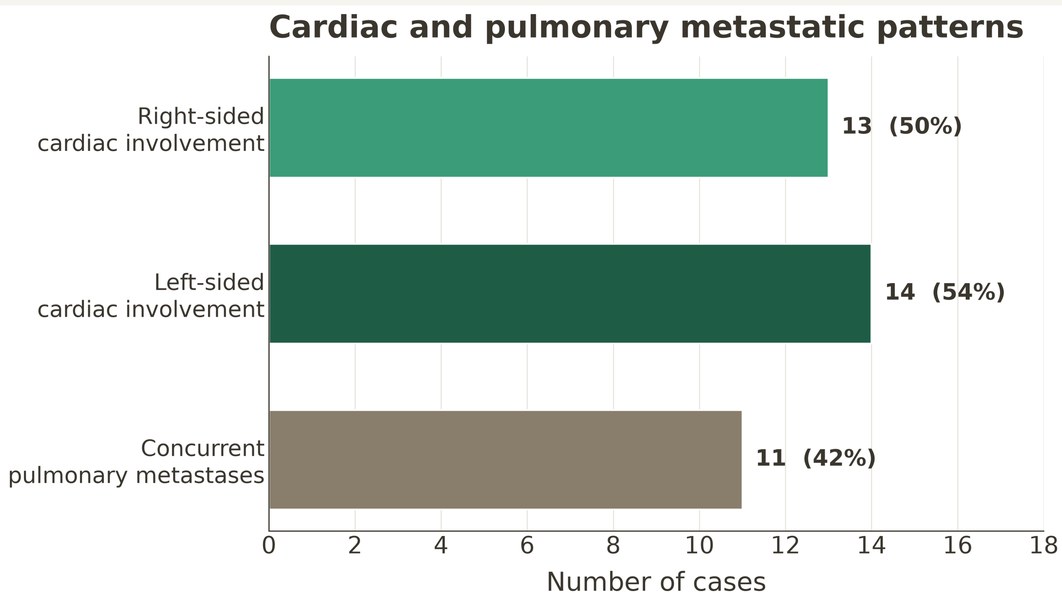
Twenty-six cases were identified with a median age of 56 years (range 30–74). The median interval from primary diagnosis to cardiac metastasis was 48 months (range 0.5–144 months). Right-sided cardiac involvement occurred in 13 cases and left-sided in 14. Concurrent pulmonary metastases were documented in 11 cases (42%). Surgical resection was performed in 15 cases, chemotherapy alone in 8, and 2 patients received no treatment. Survival ranged from days to eight years, with more durable outcomes observed where surgical resection was combined with systemic therapy.



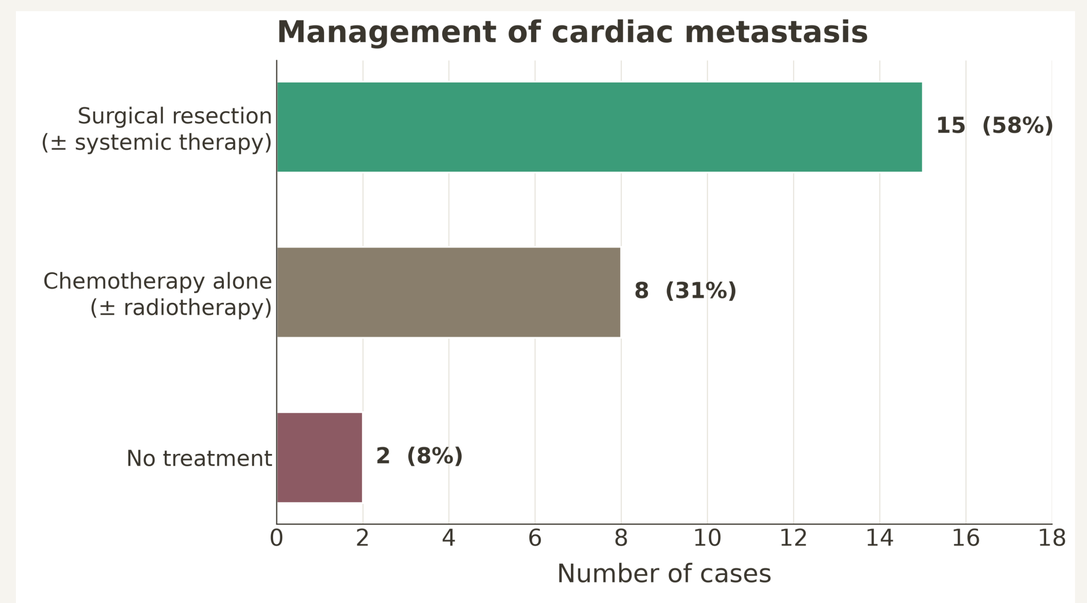
n = 26 reported cases



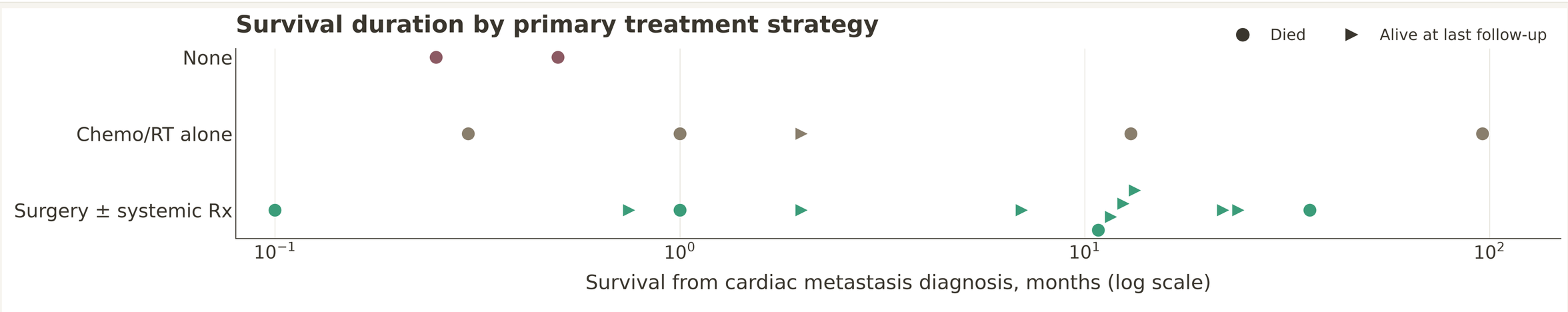
n = 23 cases with documented interval; median 48 months (range 0.5–144)



n = 26 cases; laterality categories are not mutually exclusive (biventricular disease)



n = 26 cases



Longest survival (8 years) observed with chemotherapy alone in one outlier case (Usami 2022); most durable outcomes overall clustered in the surgery ± systemic therapy group.

DISCUSSION

Cardiac metastasis from uLMS is exceedingly rare, with fewer than 30 cases reported over six decades. Presentation is heterogeneous and diagnosis frequently delayed, reflecting the non-specific nature of cardiac symptoms and the long, variable latency between primary diagnosis and cardiac spread. Multimodal management including surgical resection appears associated with improved survival in selected patients, though overall prognosis remains poor. Standardised reporting and multidisciplinary evaluation are essential to better define optimal management in this rare disease.

CONCLUSION

This review consolidates six decades of sparse case-level evidence on uLMS cardiac metastasis. Findings support early multidisciplinary consideration of surgical resection combined with systemic therapy where feasible and highlight the need for standardised case reporting to build a more robust evidence base for this rare and challenging presentation.

Multidisciplinary surgical resection combined with systemic therapy offers the most durable survival in reported uterine leiomyosarcoma cardiac metastasis cases.

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