Are there any biological and clinical differences between IgA kappa and lambda multiple myeloma?

Experience from a single Argentinian center

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Introduction

Lambda light chain multiple myeloma (MM) has been associated with a poorer prognosis compared to the kappa type. Likewise, the IgA isotype is linked to worse clinical outcomes. Our objective was to compare IgA kappa vs. IgA lambda subtypes in a cohort of patients from a university hospital in Argentina.

Objectives

To compare IgA kappa and lambda MM patients in terms of overall survival (OS), progression-free survival (PFS), and clinical manifestations.

Methods

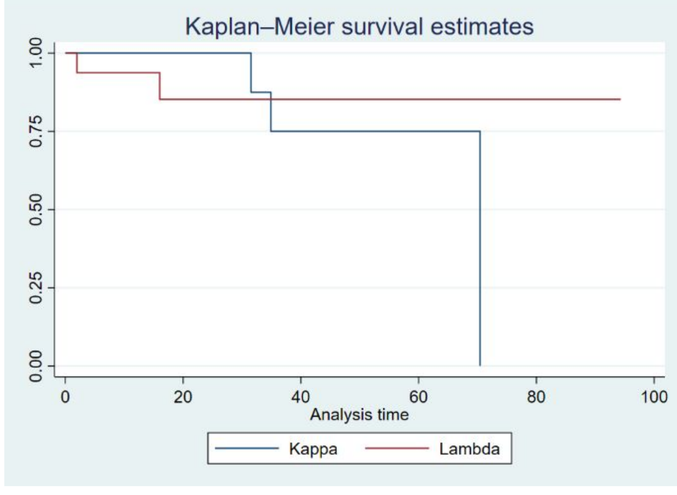
Observational, analytical, and retrospective cohort study including patients over 18 years old with IgA MM treated at a single university hospital in Buenos Aires, Argentina, from January 2017 to June 2024.

Results

Twenty-nine patients with a median age of 60 years (IQR, 52–66 years) were included; 55.2% (n=16) were female. Thirteen patients (44.8%) had IgA kappa MM and sixteen (55.2%) had the lambda subtype. The kappa group showed a male predominance (69.2%) and the lambda group a female predominance (75%). Autologous stem cell transplantation was performed in 72.4% (n=21) of patients, and one patient underwent allogeneic transplantation.

Median follow-up was 32 months. Median PFS was 31.9 months, higher in kappa (35.5) than in lambda (28.1) (P value=0.78). Overall mortality was 20.7%, with 4 deaths in the kappa group and 2 in lambda (P value=0.63). Median OS from diagnosis was 32.43 months (36.53 months for kappa and 32.43 months for lambda) (P value=0.77)

Variable	Kappa, n (%)	Lambda, n (%)	P value
Anemia <10 g/dL	11 (84,6%)	13 (81,3%)	1
Lytic bone lesions	7 (53,9%)	9 (56,3%)	1
Hypercalcemia >11,0 mg/dL	4 (30,8%)	4 (25,0%)	1
Kidney failure >2,0 mg/dL	3 (23,1%)	4 (25,0%)	1
Hemodialysis	2 (15,4%)	2 (12,5%)	0.78



Cytogenetic testing performed in 23 patients showed that among IgA lambda cases, 2 had del(17p) and 1 had t(4;14), whereas in kappa cases, 2 exhibited del(17p), 1 del(13q), and 1 gain(1q). The predominant treatment protocols were RVD (46.2% in kappa, 50% in lambda), followed by CyBorD (30.8% and 31.3%, respectively).

Discussion

While previous studies indicated poorer outcomes for lambda MM, our analysis found no significant differences in survival or clinical features between IgA kappa and lambda subtypes. This underlines the requirement for more extensive research to identify prognostic variables and optimize clinical care.

Summary

In this cohort of 29 IgA MM patients, kappa and lambda subtypes showed comparable progression-free and overall survival, as well as similar clinical characteristics. Cytogenetic abnormalities and treatment patterns were similarly distributed. Overall, IgA MM was associated with a poor prognosis.

References

1.Habermehl GK et al. IgA plasma cell neoplasms: poorer survival and increased genomic complexity vs IgG. Ann Diagn Pathol. 2020;44:151449.
2.Akgun Y et al. Describing IgA Myeloma: An Immunophenotypic and Molecular Approach. R I Med J. 2022;105(6):41-45.
3.Wang L et al. IgA type multiple myeloma: clinical features and prognosis. Chin Med J (Engl). 2018;131:1249-1250.
4.Sannier A et al. IgA kappa light and heavy chain deposition disease in multiple myeloma. Br J Haematol. 2018;183(1):13.