IMPACT OF T(11;14) IN MULTIPLE MYELOMA ON RESPONSE TO TREATMENT AND SURVIVAL.

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Background

Cytogenetic abnormalities detected by FISH (fluorescent in situ hybridization) in Multiple Myeloma (MM) **allow differentiating groups** with different biological characteristics, response to treatment and prognosis. The **t(11;14)** is the most frequently detected (15-20%) and its impact on **prognosis** in the era of new **treatments is not well established**.

Objectives

To determine the **overall survival (OS)** of patients with t(11;14), the overall rate response **(ORR) and percentage of complete response (CR)** of these patients and the **impact of t(11;14)** on the **International Staging System (ISS).**

Methods

An **observational retrospective** study was designed including 1111 patients diagnosed of MM in Hospital of Salamanca and Leon (1984-2018). Patients without t(11;14) study by FISH were excluded. Patients were classified in **3 groups: 1) t(11;14) group; 2) high-risk (HR) group** (included patients with t(4;14), t(14;16), del17p and t(11;14) with del17p); and **3) standard risk (SR) group** (patients that were not included in groups above). **SR and HR patients were pooled in the non-t(11;14) group**. Proteosome inhibitors, immunomodulators and anti-CD38 monoclonal antibodies were named novel agents.

Results

A total of **600 patients were included**. One-hundred and five patients harbored t(11;14) (17.5%). **Ninety-eight (16.3%) belonged to the t(11;14) group**, **104 (17.3%) to the HR and 398 (66.3%) to the SR group**. Three-hundred and fifty (58.3%) were male and the median age was 66 years (28-96). The median prior lines of therapy was 2 (0-14) and **356 (62.7%) received new drugs. Overall survival by cytogenetic groups** is detailed in **figure 1**. The **ORR and the percentage of CR** are shown in **table 1. The impact of new treatments in OS** in the t(11;14) and the non-t(11;14) groups are detailed in **Figure 2 and 3**, respectively**.** The **impact of the t(11;14)** in the **ISS** is shown in the **Figure 4.**

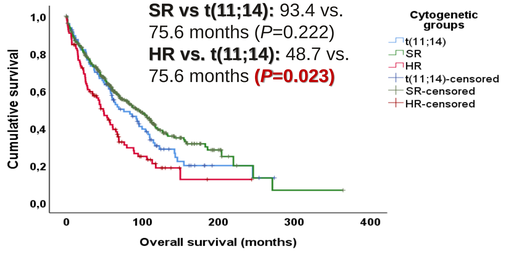


Figure 1. Overall survival by cytogenetic groups

		ORR (%)	CR (%)
t(11;14) group	Novel therapies	89.6	31.3
	Conventional therapies	80.0	32.5
	P value	0.207	0.900
Non-t(11;14) group	Novel therapies	89.0	43.8
	Conventional therapies	77.6	31.7
	P value	**0.001**	**0.011**

Table 1. Overall rate response and percentage of complete response with new and conventional therapies in the (11;14) and non-t(11;14) groups.

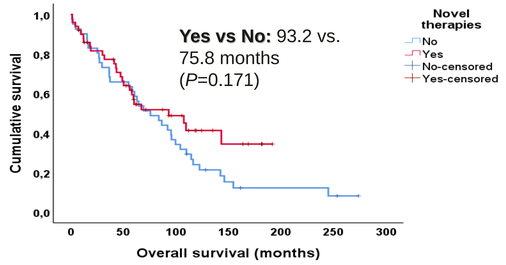


Figure 2. The impact of novel therapies in overall survival in the t(11;14) group.

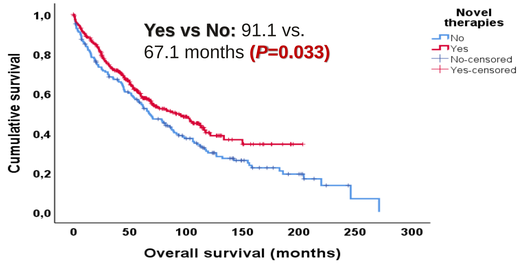


Figure 3. The impact of novel therapies in overall survival in the non-t(11;14) group.

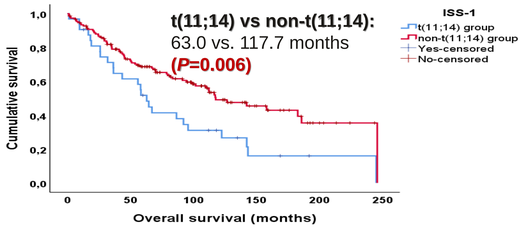


Figure 4. The impact of t(11;14) in ISS-1 patients.

Conclusions

- **Patients with t(11;14)** in our cohort did not benefit from **the introduction of novel agents** in terms of quality of response and survival.
- **The t(11;14) and the SR group had similar prognosis, but superior than the HR group**.
- Patients with good prognosis **(ISS-1), the presence of t(11;14) was associated with worse OS**.

References

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