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S168 ERYTHROPOIETIN STIMULATION AGENTS SIGNIFICANTLY IMPROVES OUTCOME IN LOWER RISK MDS.

Topic: 10. Myelodysplastic syndromes - Clinical

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Background: The EUMDS Registry started in 2008 as a prospective, non-interventional longitudinal study, enrolling newly diagnosed patients with IPSS low or intermediate-1 MDS from 16 European countries and Israel.

Aims: The aim of the present analysis was to see how treatment with or without Erythropoietin Stimulating Agents (ESAs) and/or red blood cell transfusions (RBCT) impact overall survival (OS) and quality of life (QoL).

Methods: Patient management was recorded electronically every 6 months ("visit") in a central database, including treatment, transfusions, blood values, and health related quality of life (HRQoL) using the EQ-5D 3-Level index and Visual Analog Scale (VAS). Patients were eligible to be included in the analyses if their hemoglobin was recorded as less than <10 g/dl at a visit. To overcome potential confounding by non-random allocation of ESA treatment, propensity score matching was performed to ensure that treated and untreated patients had similar characteristics. Only patients with comparable propensity scores were included in the analyses to estimate the effects of ESA treatment on outcomes using standard time to event

analyses; OS was estimated from the first visit a Hb value of <10g/dl was recorded. OS was examined for patients treated with ESA stratified by their transfusion status prior to commencing ESA treatment (no RBCT, <4 units, ≥4 units).

Patients were separated into 4 groups at each clinical visit, depending on the treatment received in the interval leading up to that visit; no ESA nor RBCT, ESA only, ESA and RBCT and RBCT only. HRQoL at each visit according to the treatment status was summarized for patients who had completed a questionnaire at visit 1 and 2; mean values were examined by treatment group.

Results: Of 2562 patients registered by November 2021, 2448 were diagnosed before July 2019 and included in the analysis; these patients were divided into two groups: ESA untreated (n=1265) and ESA treated (n=1183). Patients whose Hb remained above 10g/dl were excluded leaving 529 untreated patients and 749 ESA treated; after propensity score matching was applied two comparable groups were produced: ESA untreated (n= 426) and ESA treated (n= 742). Median OS from reaching the eligibility criteria in the ESA treated vs untreated groups were 44.9 and 34.8 months respectively (Fig 1a), giving a clear survival advantage to the ESA-treated group. (p<0.003). In the ESA-treated group, OS was poorer in those who had been transfused prior to commencing ESA (Fig 1b, p<0.001).

Fig 1c shows the number of patients at each visit who had been treated with transfusions or ESA; 647/1278 had received neither at visit 1, the figure shows the "flow" of patients by treatment for the first 6 visits. HRQoL was examined for the 695 patients who had completed a questionnaire at both visit 1 and 2 up to visit 6; differences were seen by treatment (Fig 1d). Patients who had received no treatment reported, on average, the highest mean HRQoL, in contrast, patients who had RBCT had the lowest (p<0.001).

Image:

Fig 1A: Overall Survival - Propensity Score Matched

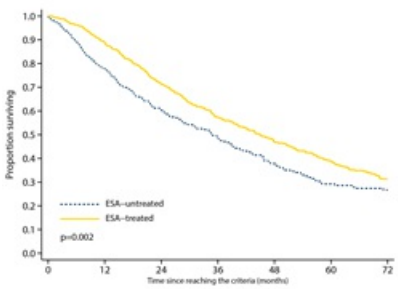


Fig 1B: Overall Survival - ESA treated stratified by RBCT status prior to starting ESA

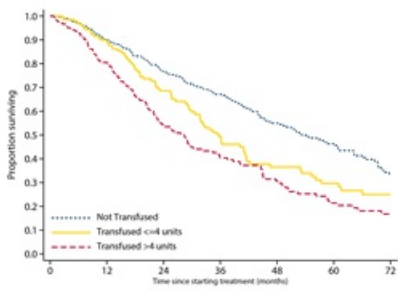


Fig 1C: Sankey Diagram for Eligible Group (ESA Treated n=749, Not Treated n=529)

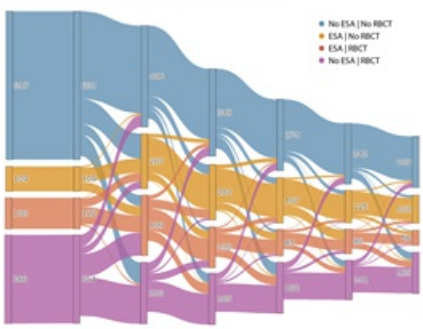
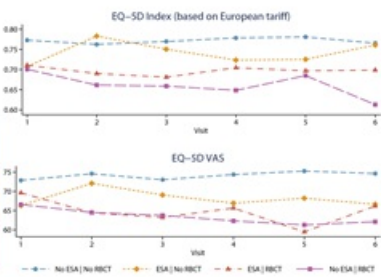


Fig 1D: Mean HRQoL by ESA/RBCT status



Summary/Conclusion: This unique large prospective registry study clearly shows a significant survival advantage for lower-risk MDS patients exposed to ESA treatment at onset of anemia (Hb <10g/dL) but before onset of transfusion therapy, strongly supporting recommendations to start ESA treatment early. The effect on patients with an early transfusion need warrants further studies. Moreover, ESA exposure is associated with maintained QoL, while RBCT development with or without ESA exposure is associated with significantly deterioration in QoL.