

Patients with Myelodysplastic Syndromes in China: A Systematic Literature Review

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BACKGROUND & OBJECTIVES

- Myelodysplastic syndrome (MDS) is a group of heterogeneous myeloid clonal diseases derived from hematopoietic stem cells, characterized by abnormal myeloid cell development, ineffective hematopoiesis, refractory cytopenia, and a high risk of conversion to acute myeloid leukemia (AML).
- The incidence of MDS is proportional to age. According to foreign literature, 86.4% of MDS patients are over 60 years old at diagnosis, with an annual incidence of approximately 7.1 per 100,000 in those aged 60 to 69, and about 35.5 per 100,000 in individuals aged 80 and above. The impact of age on the prognosis of MDS patients varies across different centers.
- This study aims to synthesize existing literature to demonstrate the differences in patient characteristics, treatment patterns, treatment outcomes, and survival prognosis associated with MDS between elderly patients and non-elderly patients in China.

METHODS

Bibliographic databases	<ul style="list-style-type: none">English bibliographic databases: MEDLINE, EMBASE, and Web of Science.Chinese bibliographic databases: WANFANG, VIP, and CNKI.
Literature search strategies	<ul style="list-style-type: none">Publication years: 2019 to 2024.Keywords: keywords for disease, keywords for observational studies, and keywords for regions.
Study eligibility assessment	<ul style="list-style-type: none">Adult patients with Myelodysplastic Syndromes.Studies reported patient characteristics, treatment details, clinical efficacy, safety, quality of life, health resource utilization, and associated costs.Study was designed as an observational study.
Evidence synthesis	<ul style="list-style-type: none">Studies were classified into an elderly study group (mean age ≥65 years) and a non-elderly study group (mean age <65 years).A single-arm meta-analysis with a random-effects model was used to synthesize the results in the two groups.Results between the two groups were compared using the chi-square test.

RESULTS

Study selection

- After the screening of titles and abstracts, full publication review, a total of 127 references were included for data extraction and evidence synthesis. The literature search process is outlined in Figure 1.

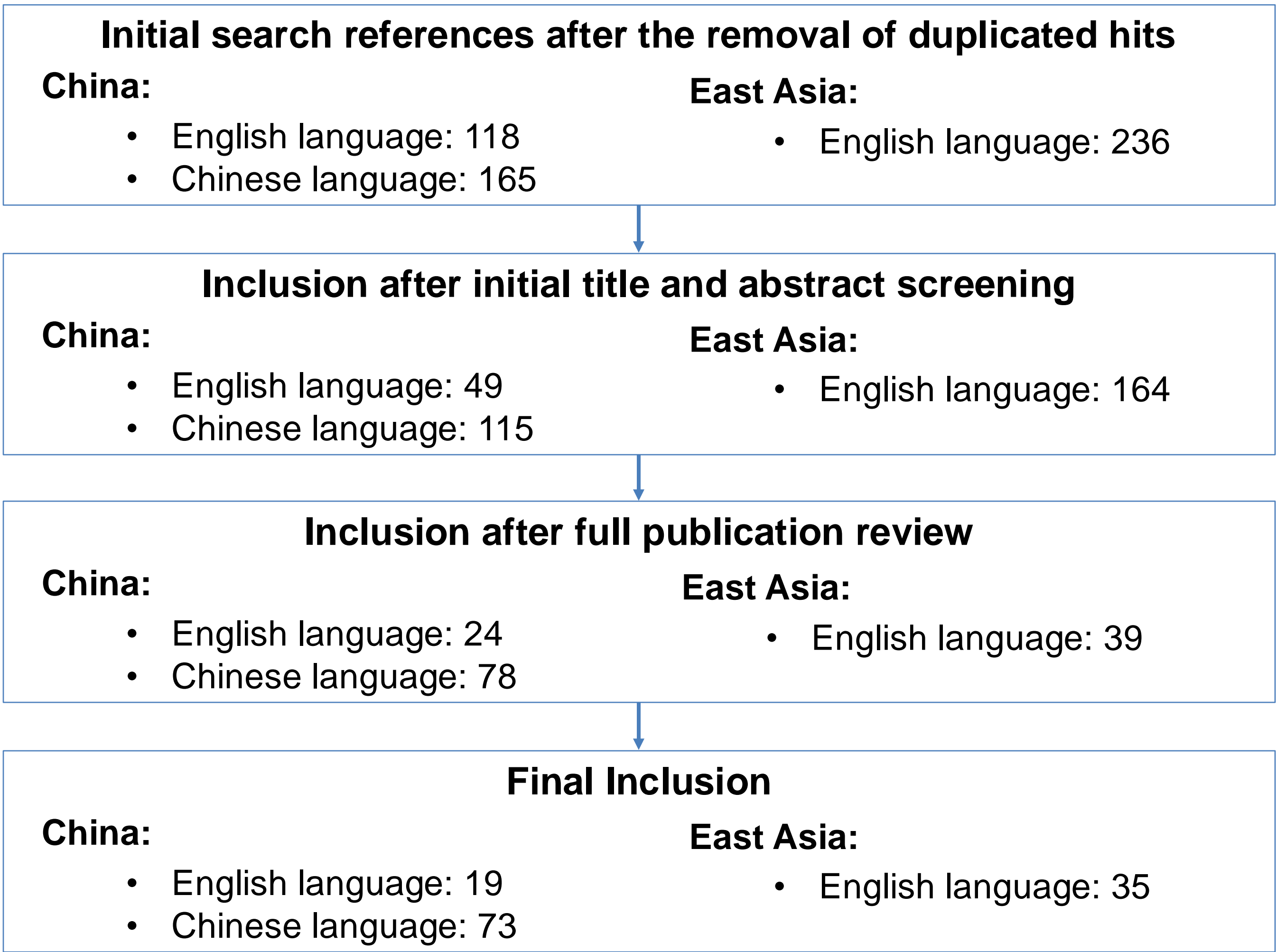


Figure 1. Literature search process for real-word studies

Patient Characteristics & comorbidities

- The mean age in the elderly patients was 70.0 years, compared to 55.1 years in the non-elderly patients. The male proportions were comparable in both groups (64.1% vs. 61.8%, p=0.171).
- The elderly patients had significantly higher prevalence for hypertension and cardiovascular disease, but had a lower prevalence of anemia (Figure 2).

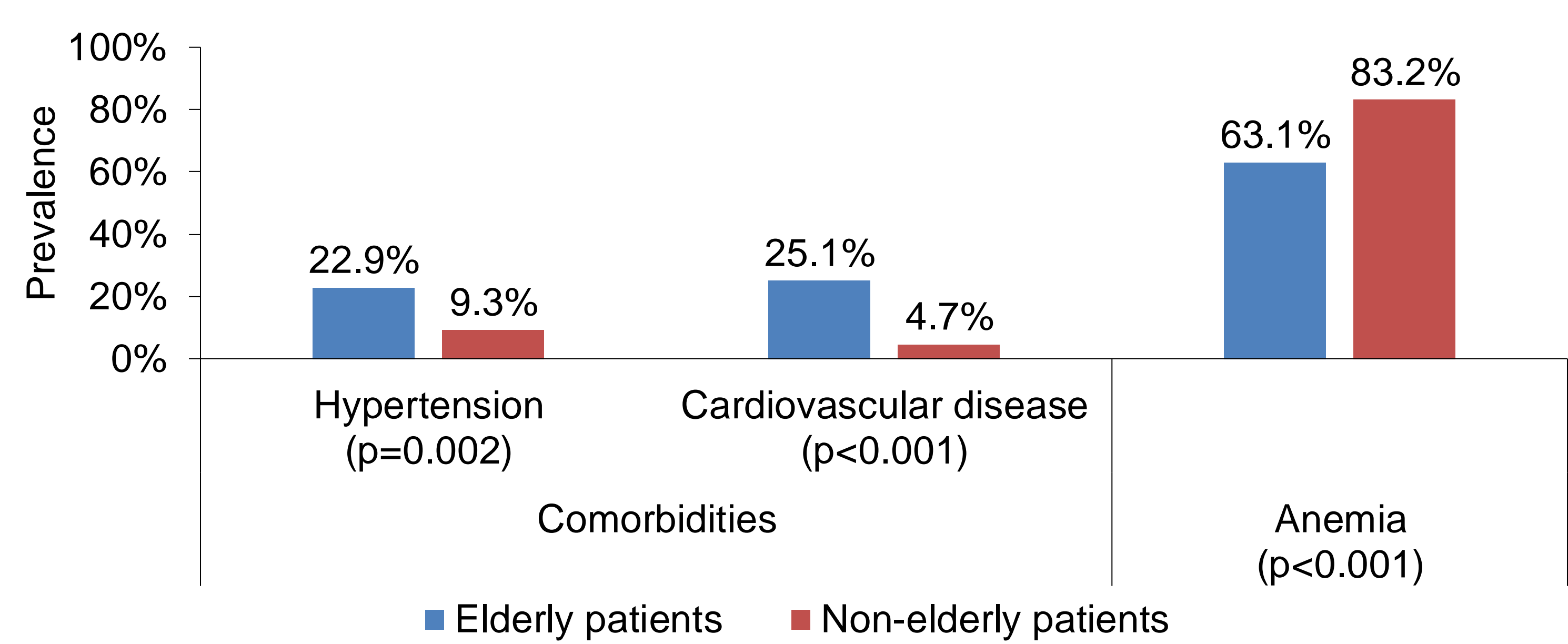


Figure 2. Prevalence of comorbidities and anemia in the two age groups

Treatment Pattern

- The elderly patients were more frequently treated with demethylating agent combination therapy, but less frequently with best supportive care, immunosuppressants or immunomodulators. The results are illustrated in Figure 3.

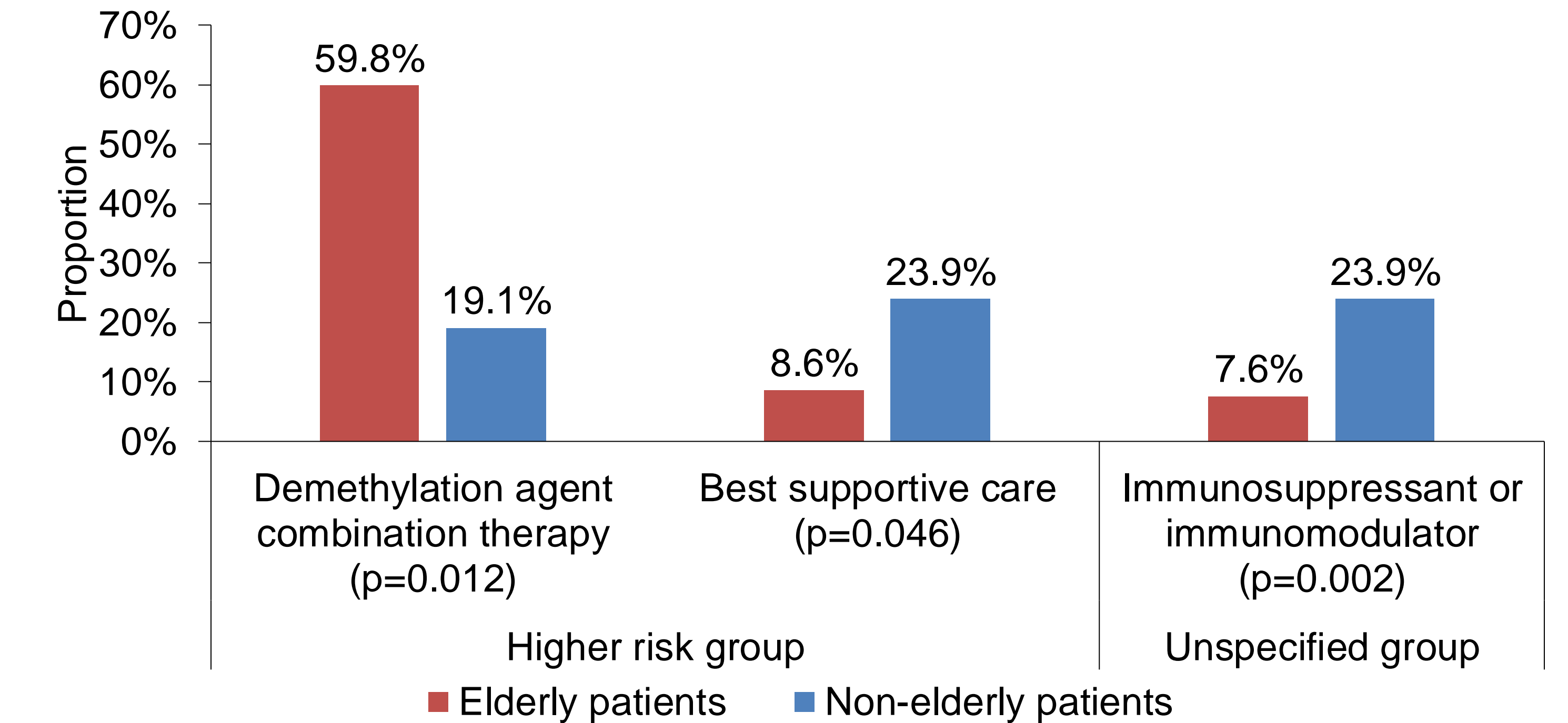


Figure 3. Treatment distributions in the stratified patients by age.

Treatment Outcomes

- The elderly patients had a significantly lower objective response rate to first-line therapy with demethylation (30.0% vs. 60.5%, p=0.007).

Survival Prognosis

- The elderly patients had a lower median overall survival (mOS) after first-line allogeneic hematopoietic stem cell transplantation (allo-HSCT) and lower median progression-free survival (mPFS) after first-line demethylation treatment. The elderly patients had a lower mOS after progression to AML. The survival results are illustrated in Figure 4.

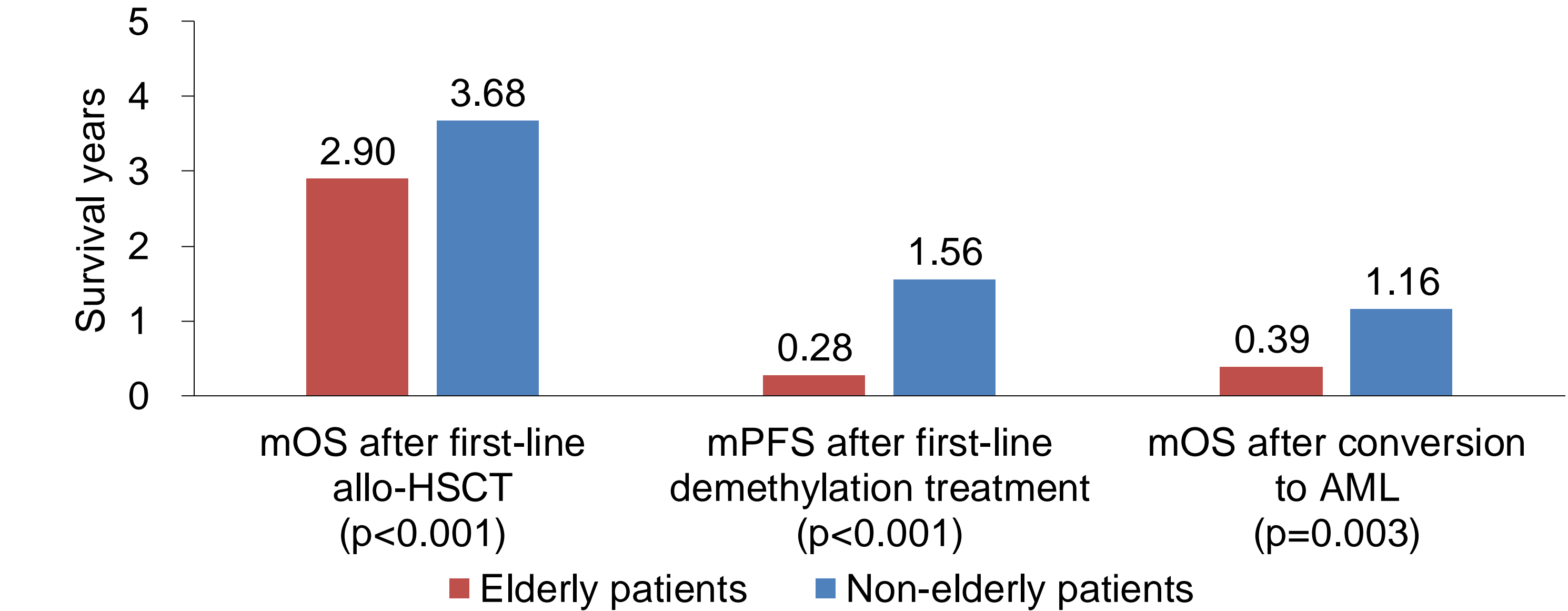


Figure 4. Survival prognosis of the stratified patients by age.

CONCLUSIONS

- Managing elderly patients with MDS in China is more challenging due to more prevalent comorbidities, limited treatment options, reduced treatment efficacy, and poorer survival prognosis when compared to younger patients.