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# POSTER ABSTRACTS

## 652.MULTIPLE MYELOMA: CLINICAL AND EPIDEMIOLOGICAL

### The Efficacy of Roxadustat in Multiple Myeloma Patients with Renal Insufficiency and Anemia: A Real-World Study

*Shuchan Li*[1], *Xiaoyan Han*[2], *Gaofeng Zheng, MD*[2], *Jingsong He*[3], *Wenjun Wu, MD*[2], *Yang Yang*[4], *Qingxiao Chen, MD*[1], *Donghua He*[2], *Mengmeng Dong*[5], *Jinuo Wang, MD*[6], *Yi Li*[1], *Li Yang*[7], *Zhen Cai*[5]

[1]Department of Hematology and Bone Marrow Transplantation Center, The First Affiliated Hospital, School of Medicine, Zhejiang University, Hangzhou, China
[2]Bone Marrow Transplantation Center, Department of Hematology, The First Affiliated Hospital, School of Medicine, Zhejiang University, Hangzhou, China, Hangzhou, China
[3]The Department of Bone Marrow Transplantation Center, The First Affiliated Hospital, Zhejiang University School of Medicine, Hangzhou, China
[4]Department of Hematology and Bone Marrow Transplantation Center, The First Affiliated Hospital, School of Medicine, Zhejiang University, Hangzhou, China, Hangzhou, China
[5]Bone Marrow Transplantation Center, The First Affiliated Hospital, Zhejiang University School of Medicine, Hangzhou, China
[6]the First Affiliated Hospital, Zhejiang University School of Medicine, Hangzhou, China
[7]The First Affiliated Hospital of Medical College, Zhejiang University, Hangzhou, CHN

**Background:**
Anemia and renal insufficiency are two common symptoms of multiple myeloma (MM). There are currently few treatment options for anemia in MM. Renal anemia appears to be one of the causes of anemia in MM. Roxadustat is an inhibitor of hypoxia-inducible factor prolyl hydroxylase (HIF-PH) that has been proven effective to improve anemia conditions in patients with kidney disease. HIF-PH inhibition with Roxadustat may offer a novel approach to the management of anemia in MM patients with renal insufficiency. This is the first study exploring the efficacy of Roxadustat in multiple myeloma patients with renal insufficiency.

**Methods:**
The clinical data of MM patients with renal insufficiency (defined as serum creatinine (Scr) ≥177mol/L) and severe anemia (defined as Hb<80g/L) in the First Affiliated Hospital, Zhejiang University School of Medicine were analyzed retrospectively in this study. Patients who were treated with Roxadustat complied the drug instructions. Roxadustat was administered three times a week (TIW) at a dose of 100 mg (in patients weighing 45 to 60 kg) or 120 mg (in patients weighing 60 kg) in hemodialysis patients, and 70 mg (in patients weighing 40 to 60 kg) or 100 mg (in patients weighing 60 kg) in patients not receiving hemodialysis. Mann-Whitney U, chi-square test and mixed-effect models for repeated measures (MMRM) were applied to the study.

**Results:**
Among a total of 98 MM patients with renal insufficiency (Scr≥177$\mu$mol/L) and severe anemia (Hb<80g/L), 30 MM patients received Roxadustat treatment along with the anti-tumor treatment. The choice anti-tumor therapy was commonly consisted of combination therapy with a bortezomib, cyclophosphamide/thalidomide and dexamethasone or an equivalent regimen. 12 patients in Roxadustat group and 10 patients in control group (40.0% vs. 14.7%, P=0.006) underwent short-term or long-term hemodialysis at the start of the anti-tumor treatment. 25 patients in Roxadustat group and 59 patients in control group (83.3% vs. 86.8%, P=0.655) were newly-diagnosed MM (NDMM).
The mean (standard deviation [SD]) baseline hemoglobin (Hb) levels for the Roxadustat and control groups were 62.73 (9.04) g/L and 68.03 (7.32) g/L, respectively. The mean (SD) baseline Scr levels for the Roxadustat and control groups were 441.93 (252.60) g/L and 342.53 (185.38) $\mu$mol/L, respectively. The median increase in Hb from baseline to week 4, week 8, week 12 was 5.50 versus 17.00 g/L (P<0.001), 13.00 versus 30.50 g/L (P<0.001), and 20.00 versus 41.00 g/L (P<0.001) in patients from control group and Roxadustat group. Analyzing with mixed models, the interaction of time* Roxadustat was 6.77 g/L (95% CI=4.80-8.73, P<0.001) in the whole cohort. The proportions of MM patients with Hb increases of ≥10 g/L, ≥20 g/L, and ≥30

g/L at week 12 were 39.7% (n=27) versus 70.0% (n=21) (P=0.006), 61.8% (n=42) versus 93.3% (n=28) (P=0.001), and 66.2% (n=45) versus 100% (n=30) (P<0.001) in MM patients from control group and Roxadustat group.
Roxadustat was well tolerated by MM patients with renal insufficiency and severe anemia. Metabolic acidosis (23.3% vs. 7.4%, P=0.026) and hyperkalemia (33.3% vs. 14.7%, P=0.035) occurred more frequently in the Roxadustat group than in control group. Although there was no significant difference, deep vein thrombosis occurred relatively more frequently in the Roxadustat group than in control group (16.7% vs. 7.4%, P=0.160).

**Conclusion:**

This is the first study exploring the efficacy of Roxadustat in multiple myeloma patients with renal insufficiency. According to this study, Roxadustat is well tolerated by MM patients with renal insufficiency and effectively improves their anemia conditions. Metabolic acidosis and hyperkalemia occurred more frequently in the Roxadustat group than in control group. The data indicated that Roxadustat could be proved to be a potential, effective therapy for anemia in MM patients with renal insufficiency.

**Disclosures** No relevant conflicts of interest to declare.

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