Fe++ EDTA administration in secondary anemia. Effects on hemoglobine value, cardiovascular risk and Adherence to Therapy.

Marchitto N.*, Sindona F.*, Fusco L.**, Dalmaso S.*, Raimondi G.*****

•* AUSL Latina, Internal. Medicine. Dept. A. Fiorini Hospital (Terracina), Italy. ** Villa Laura, Cardiology Dept. (Bologna), Italy. *** "Sapienza" University of Rome

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AIM: The aim of this study is to underline the effects about hemoglobine value of Fe++ EDTA administration vs intravein Fe++ infusion. Anemia is a global problem because two billion of people are affected by blood cells disorder. According to WHO criteria anemia id defined as blood hemoglobin (Hb) concentration < 130 gr/L (13 gr/dl) or hematocrit (Hct) < 39% in adult males or (Hb) concentration < 120 gr/L (12 gr/dl) or hematocrit (Hct) < 37% in adult females. In patients with coronary heart disease, anginal episodes may increase in frequency and severity and patients with carotid artery disease may develop light-headedness or dizziness.
All causes of anemia give impaired of hemoglobin level and red blood cells value. This hematological problem have an hight impact about quality of life in older patients in particular if affected of cronic heart failure and or respiratory disease. Therefore anemia evaluation and follow-up is included in cardiovascular guidelines.

METHODS: We have enrolled 43 elderly patients (14 treated with oral administration and 29 treated with intravein supplementation; the enrolled patients have range age 78,2 ± 13,1 years) with recent diagnosis of secondary anemia due to iron deficiency and or low-moderate kidney failure. We have evaluated laboratory value of red blood cell, Hb, and iron blood profile. We have evaluated compliance to therapy using Morinsky Scale and have evaluated the improvement of laboratory value and adherence to therapy before and post-administration of Fe++ 60 mg (2 cp/24 hours) vs Fe++ 63 mg intravein in saline solution.

RESULTS: Our data shown that intravenous iron supplementation exposes patients to a greater water supply due to iron dilution into saline solution. This trend is confirmed by the evaluation of the difference in the electrical resistance measured using a bioimpedenziometric test. More interesting data are noted analizing electrocardiographic data. Our data shown that intravenous iron supplementation give a statistically significant variation of the T-peak to T-end value that represent a predictive parameter of arithmic risk.

CONCLUSION: Fe++ EDTA could be a valid alternative to iv therapy (gold standard) in the treatment of secondary anemia in elderly patients. Our preliminary results are comfortable but not applicable to a broad spectrum of patients with secondary anemia without an hematological evaluation of the different causes of anemia.

Tab. 1	Value (pre) ± DS	Value (post) ± DS	P Value (< 0,005)
Hb	9,5 ± 1,3	11,7 ± 1,9	**0,001**
Fe++	19,5 ± 5,6	53,8 ± 25,9	**0,001**
RR	778,5 ± 179,1	814,5 ± 172,9	0,125
LF	600,5 ± 626,1	1442,4 ± 3017,3	0,625
HF	854,9 ± 909,9	2780,1 ± 6137,1	0,688
Tp-e	96,8 ± 14,9	95,8 ± 12,9	0,844
QTc	317,3 ± 28,6	318,3 ± 30,6	0,625
Tp-e/QTc	0,304 ± 0,04	0,301 ± 0,04	0,844
Resistance	n.a.	n.a.	n.a.
Reactance	n.a.	n.a.	n.a.

Tab 1: Fe++ EDTA 60 mg/die. (Mean Creatinine value: 1,1 ± 0,6 mg/dl). n.a. = not available

Tab. 2	Value (pre) ± DS	Value (post) ± DS	P Value (< 0,05)
Hb	8,9 ± 1,5	9,9 ± 1,9	**0,001**
Fe++	19,6 ± 12,2	37,1 ± 21,9	**0,001**
RR	755,0 ± 243,4	779,0 ± 234,4	1,000
LF	1684,1 ± 2622,1	2016,5 ± 3191,1	0,818
HF	4601,1 ± 6561,2	3312,0 ± 4369,3	0,378
Tp-e	91,8 ± 16,2	99,1 ± 11,6	**0,048**
QTc	340,0 ± 42,8	352,7 ± 62,2	0,105
Tp-e/QTc	0,271 ± 0,04	0,282 ± 0,04	0,562
Resistance	517,6 ± 139,6	503,6 ± 172,9	**0,018**
Reactance	41,5 ± 19,5	38,5 ± 18,3	0,156

Tab 2: Fe++ intravenous therapy 63 mg/die (in saline solution 500 ml). (Mean Creatinine value: 1,4 ± 1 mg/dl).

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